Page No.

S

T

K.3 NONNAVY SIMULATORS (PILOT AND SPECIAL CREW TIME)

A/C TYPE	SIMULATOR TYPE	LOCATION	TYPE EQUIP CODE
TC-4C	OFT	FSI SAVANNAH	VZAG
C-9	OFT	FSI LONG BEACH	VZAC
UC-12B	OFT	FSI/SIMUFLITE	VZAP
C-130E	OFT	US AIR FORCE	VZAU
E-3	OFT/TTT	US/AIR	VZBE
F-4	OFT/WST	FORCE/NATO	VZAT
RF-4	OFT	US AIR FORCE	VZAK
F-15	OFT/WST	US AIR FORCE	VZBV
F-16	OFT/WST	US AIR FORCE	VCT7
F-111	OFT/WST	US AIR FORCE	VCT6
AH-1S	OFT	US AIR FORCE	VZA5
AH-1T	OFT	US ARMY	VZA1
UH-1	OFT	US ARMY	VZAM
HH-52	OFT	US ARMY	VZAJ
UH-60	OFT	US COAST GUARD	VZAQ
AH-64	OFT	US ARMY	VZBC
T-37	OFT	US ARMY	VZBJ
T-38	OFT	US AIR FORCE	VZBK
CT-39	OFT	US AIR FORCE	VZAE
T-43	OFT/TT	FSI ST. LOUIS	VZAX
FALCON	OFT/WST	US AIR FORCE	VZBL
HARRIER	OFT/WST	NUMEROUS	VZBM
HORNET (F-18)	OFT/WST	FOREIGN	VZA8
JAGUAR	OFT/WST	NUMEROUS	VZA7
LYNX	OFT/WST	FOREIGN	VZBN
MIRAGE	OFT/WST	NUMEROUS	VZBP
ORION (P-3)	OFT/TTT/WST	FOREIGN	VZBQ
SEA KING (H-3)	OFT/WST	NUMEROUS	VZBR
	OFT/WST	FOREIGN	VZA6
TORNADO	OFT/TTT/WST	NUMEROUS	VZBA
AURORA	OFT/WST	FOREIGN	VZBS
CRUSADER (F-8)	OFT/WST	NUMEROUS	VDT1
	WST	FOREIGN	VZBU
ETENDARD	WST	NUMEROUS	VZBV
F-14	WST	FOREIGN	VZAW
F-15		NUMEROUS	
F/A-18		FOREIGN	
		NUMEROUS	
		FOREIGN	
		CANADA	
		FRANCE	
		FRANCE	
		GRUMMAN	
		MCAIR ST. LOUIS	
		MCAIR ST. LOUIS	

SIMULATOR DESIGNATION	SIMULATOR TYPE	AC/TYPE	TYPE EQUIP CODE
2F146	WST	SH-60F	VHZF
2F69D	WST	P-3A/B	VPBM
2F69E	WST	P-3B	VPBU
2F142	WST	P-3B	VPBC
2F87	WST	P-3C	VPBR
2F140	WST	P-3C	VPB6
2F92A	WST	S-3A	VSBD
2F92B	WST	S-3B	VSBJ
2F101	OFT	T-2C	VTBB
2B37	FIT	T-34C	VTEB
2F129	OFT	T-44A	VACV
2F137	IFT	T-45A	VTMA
2F138	OFT	T-45A	VTMB
2F99	OFT	AV-8A	VAGA
2F133	OFT	AV-8B	VAGC
2F134	WTT	AV-8B	VAGD
2F149	WST	AV-8B	VAGQ
2F150	WST	AV-8B	VAGR
2F151	OFT	MV-22A	VKAA
2F170	APT	AH-1W	VHTQ
2F171	APT	CH-53E	VHUM
2F172	APT	CH-46E	VHRM

AMCS — AIR COMBAT MANEUVERING SIMULATOR
APT — AIRCREW PROCEDURE TRAINER
FIT — FLIGHT INSTRUMENT TRAINER
IFT — INSTRUMENT FLIGHT TRAINER
NCLT — NIGHT CARRIER LANDING TRAINER
OFT — OPERATIONAL FLIGHT TRAINER
OF/NT — OPERATIONAL FLIGHT/NAVIGATION TRAINER
WST — WEAPON SYSTEM TRAINER
WTT — WEAPON TACTICS TRAINER

within MCO P3500.14 (Training and Readiness Manual, Vol. 1, Admin.).

d. T — Transition Syllabus — Syllabus instruction designed for air crewmen changing aircraft types. Tactical jet, helicopter, fixed-wing transport, fixed-wing observation, and VSTOL attack are the Marine Corps aircraft types.

J.3 MARINE AIRCREW STATUS CODES

a. 0 — Personnel authorized more than two syllabuses..

b. 1 — Tactical Crewmen — Air crewmen permanently assigned to a tactical aircraft unit and whose cumulative combat readiness contributes directly toward the combat readiness of the unit as reported through UNITREP.

c. 2 — Augmentation Crewmen — Those crewmen assigned to fly with tactical squadrons to augment the unit for combat readiness purposes. No more augmentation personnel will be assigned to a unit than is required to bring that unit to 100-percent T/O.

d. 3 — Tactical Support Crewmen — Crewmen similarly assigned as augmentation crewmen, but only maintained at a level of combat readiness that shall not inordinately degrade the capacity of the reporting unit to maintain combat readiness of tactical and augmentation crewmen.

e. 4 — Replacement Air Crewmen — Newly designated air crewmen undergoing training as outlined in the Training and Readiness Manual within a tactical or training squadron.

f. 5 — All enlisted air crewmen (flight engineers, radio operators, crewchiefs, gunners, test, trainees, etc.) and aerial observers and non-USN/USMC NA/NFOs.

g. 6 — Nonsyllabus pilot.

h. 7 — Nonsyllabus NFO.

i. 8 — Other nonsyllabus crewmen.

j. 9 — Local use.

ORDNANCE	ORDNANCE CODE
Mk-82 SE Inert	I82A
Mk-83 FF Inert	I83
Mk-84 FF Inert	I84
Mk-7 JATO	J1
LGB Mk-82	L82
LGB Mk-82 With Extended Fin (PEP KIT)	L82P
LGB Mk-83	L83
LGB Mk-84	L84
Mk-25 Mine	M1
Mk-36 Mine	M2
Mk-52 Mine	M3
Mk-55 Mine	M4
Mk-56 Mine	M5
AIM-7 Sparrow	M7
AIM-7 Sparrow (Captive)	M7C
AIM-9 Sidewinder	M9
AIM-9 Sidewinder (Captive)	M9C
AIM-120 AMRAAM	M10
AIM-120 AMRAAM (Captive)	M10C
AGM-45 Shrike	M45
AGM-45 Shrike(Captive)	M45C
AIM-54 Phoenix	M54
AIM-54 Phoenix (Captive)	M54C
AGM-62 Walleye	M62
AGM-62 Walleye (Captive)	M62C
AGM-65 IR Maverick	M65I
AGM-65 Laser Maverick	M65L
AGM-71 Tow	M71
AGM-78 Standard Arm	M78
AGM-84 Harpoon	M84
AGM-88 Harm	M88
AGM-114 Hellfire	M114
AGM-122 Sidearm	M122
AGM-123 Skipper	M123
Mk-76	P76
Mk-106	P106
ACMR/TACTS Pod	POD1
LAU-68 (7 2.75 Rockets)	R275
LAU-61(19 2.75 Rockets)	R275
LAU-10 (5" Zuni)	R5

ORDNANCE	ORDNANCE CODE
Mk-94 Chemical Bomb	S1
AERO-14 Spray Tank	S2
Bigeye	S3
Weteye	S4
AN/SSQ-36 Sonobuoy	SB1
AN/SSQ-41 Sonobuoy	SB2
AN/SSQ-47 Sonobuoy	SB3
AN/SSQ-50 Sonobuoy	SB4
AN/SSQ-53 Sonobuoy	SB5
AN/SSQ-62 Sonobuoy	SB6
AN/SSQ-77 Sonobuoy	SB7
ADSID III-N Seismic Detector	SD1
Mk-64 SUS	SU1
Mk-84 SUS	SU2
Mk-46 Torpedo	T594
Mk-46 Torpedo (Extorp)	T595
Mk-46 Torpedo (Rextorp)	T596
Mk-50 Torpedo	T597
Mk-50 Torpedo (Extorp)	T598
Mk-50 Torpedo (Rextorp)	T599

H.2 DELIVERY DATA CODES

Below are the delivery types and delivery codes for the weapons proficiency subsystem:

a. System/Automatic Deliveries

TYPE DELIVERY	DELIVERY CODE
Straight Path (1g)	A1
General/Dive Toss (Any g)	A2
Auto TV (Any g)	A3
Auto Hud (Any g)	A4
Auto Slew	A5
Air-to-Air Radar	F1
Air-to-Air Infrared	F2
High Loft	S1
LST/LDT-Bombs (Laser Designated)	S2
LST/LDT-Missiles (Laser Designated)	S3
System Mining	S4

G.4 OPPORTUNE CARGO CODES

CODE	CARGO
*1	NMCS items
*2	CASREP items
*3	NMCM items
A	Mail
B	Aircraft spares, parts
C	Avionic spares, parts
D	Aircraft engines
E	Ship parts
F	Electronic spares, parts
G	Electronic test equipment
H	Ground support equipment
I	Boats
J	Medical equipment, supplies
*K	Organizational equipment
L	Maintenance tools, equipment
M	Petroleum products or tanker fuel
N	Explosives, flares, ammunition
O	Aircraft
P	Weapons, weapon parts
Q	Missiles, torpedoes
R	Drones, air targets
S	Chemicals
T	Vehicles, vans, trailers
U	Food, commissary supplies
V	Musical instruments
W	Human remains
*X	Other aviation cargo
*Y	Other general cargo
*Z	Other (i.e., hazardous cargo)

* Briefly described in remarks section of the naval aircraft flight record.

Note

If codes 1, 2, or 3 are utilized, indicate alphabetical code first (primary), and code 1, 2, or 3 second (E2 means ship parts that are CASREP items). If codes 1, 2, or 3 are not used, indicate the categories relative to predominance/bulk of cargo.

K — FLT TECHNICIAN — Performs in-flight duties of maintaining, troubleshooting, and repairing avionic systems.

L — LOADMASTER — Performs in-flight functions of maintaining loading, rigging, internal cargo handling, and weight and balance requirements.

M — STUDENT PILOT — That individual undergoing training as a student pilot and performing functions/collecting FPT or CPT.

N — MISSION SPECIALIST (Space Shuttle) — The mission specialist working with the commanding pilot has overall responsibility for the coordination of shuttle operations in the areas of crew activity planning, consumables usage, and experiment and payload operations.

O — ORDNANCE — Performs in-flight duties as a flightcrew ordnanceman. Is knowledgeable of aircraft ordnance systems, weapons loading, emergency procedures, and flight equipment.

P — NFO — As a qualified naval flight officer crewmember, performs in-flight duties required to ensure mission accomplishment (e.g., ASW tactical coordinator, navigator, radar intercept officer, electronic warfare evaluator, electronics countermeasures officer, airborne communicator, etc.)

Q — COMMUNICATION — Performs in-flight duties as a flight communication operator. Is knowledgeable of aircraft avionic systems, emergency procedures, and flight equipment.

R — RADAR — Performs in-flight duties as a radar operator. Is knowledgeable of aircraft avionic systems, emergency procedures, and flight equipment.

S — UNUSED.

T — CREW UT — An air crewman assigned to crewmember flight status who has not achieved full designation in the syllabus to which assigned.

U — NONCREW UT — An enlisted aircrew candidate assigned to noncrewmember flight status for training.

V — LOCAL USE/OTHER — As the local activity desires for functions that do not fall into any identified special qualifications.

W — GUNNER — Performs in-flight functions as a gunner.

X — 2ND MECHANIC/ASSIST FLT ENGINEER — Performs in-flight functions assisting the crewchief/flight engineer in the performance of his/her duties. He/she may perform takeoffs and landings (no induced malfunctions) with an instructor pilot and instructor flight engineer onboard during minimum crew training flights.

Y — HELO UTILITY/AMCM — Performs in-flight operation of vertical replenishment or mine countermeasures equipment.

Z — MSN CMDR — A qualified naval aviator or naval flight officer designated by appropriate authority to exercise command over single aircraft or formation and responsible for all phases of the assigned mission except those aspects in safety of flight that relate to the physical control of the aircraft during flight.

F.3 SERVICE CODES

a. Pilot/Student/Pilot

USN/R Active Duty	1
USNR Reserve Training	2
USMC/R Active Duty	3
USMCR Reserve Training	4

b. Naval Flight Officer/Flight Surgeon

USN/R Active Duty	6
USNR Reserve Training	7
USMC/R Active Duty	8
USMCR Reserve Training	9

c. Other

USMC AG/Navigator	0
Other Services	5
Enlisted Marine	M
Enlisted Navy	N

N2 — HELICOPTER EMERGENCY EGRESS DEVICE.* Classroom presentation and practical experience in procedures for underwater escape using the HEED. COG 2"0" Device 9H21 used for dynamic training. GRADED ELEMENT — Skills must conform to standards specified in the NAWSTP curriculum.

O — UNDERWATER BREATHING TECHNIQUES. Lecture and practical experience in proper breathing techniques for aircraft oxygen systems. COG 2"0" Device 9H19 used for dynamic training.

P — SINGLE-PLACE AIRCRAFT UNDERWATER EGRESS. Lecture and practical experience in procedures for underwater escape from T-34 and ejection seat equipped aircraft. COG 2"0" Device 9E8 used for dynamic training T-34 pipeline students at NAS Pensacola and as a substitute for Device 9D5 at NAS Whidbey Island (for refreshers only).

Q — PARACHUTE DESCENT PROCEDURES. Lectures and practical experience in parachute descent procedures and parachute avoidance/disentanglement. COG 2"0" Device 9F6 used for dynamic training.

Q1 — PARACHUTE DRAG. Lecture and practical experience in parachute in-water release procedures. COG 2 "0" Device 9F2 used for dynamic training.

R — FIRST-AID. Review of action that can be accomplished by the survivor to effect first-aid. N1 and N2 students will receive the American Red Cross Standard First-Aid course.

S — SURVIVAL EQUIPMENT. A review of aviation life support equipment and its use for NAWSTP refresher students.

T — SURVIVAL SWIMMING. Review of basic survival swimming skills (treading water, drownproofing, and swim strokes).

U — EXTENDED SEA SURVIVAL. Extended sea survival lecture and practical experience in single-place and multiplace liferaft righting, boarding, and organization. Training may be accomplished in protected open water or swimming pool.

X — OPEN-WATER PARACHUTE DESCENT TRAINING. Lecture and practical experience in actual parachute descent and water landing. COG 2"0" Device 9F7 used for dynamic training.

Y — HELICOPTER HOIST. Lecture and practical experience in an actual helicopter hoist from the water.

Y1 — RESCUE DEVICES AND SIMULATED HELICOPTER HOIST. Classroom presentation on rescue devices and the procedures for their use. Dynamic in-water training is done using COG 2"0" Device 9H1.

Z — FINAL EXAMINATION.* Written test administered in the following courses: N1, N5, N7, R1, R2, and R3. GRADED ELEMENT — 80 percent of the questions must be answered correctly.

DEFINITION OF GRADED ELEMENTS: Elements identified by an asterisk (*) are graded and must be satisfactorily demonstrated in accordance with standards established in CNO-approved curricula. Other elements of training are not to be graded in refresher training and will be for experience only, but they must be completed.

Figure E-5. Naval Aviation Water Survival Training Requirements (Sheets 3 of 3)

INITIAL SWIM COURSES

	A	B	C	D	E	F	J	K	M1	M2
BASIC SWIM	X	X	X	X	X	X				
PREAVIATION	X	X	X	X	X	X			X	X

* These two courses are not part of the NAWSTP.

NAVAL AVIATION WATER SURVIVAL TRAINING PROGRAM REQUIREMENTS
NAWSTP INITIAL COURSES

	A	B	C	D	E	F	J	K	L	M1	M2	N1	N2	P	Q	Q1	R	U	Y	Y1	Z
N1	X						X	X	X			X		X	X	X	X	X	X	X	X
N2	X	X	X	X	X	X				X	X										

NAWSTP FLEET INITIAL COURSES

	A	J	K	L	M1	M2	N1	N2	O	P	Q	Q1	T	U	X	Y1	Z
N3	X	X	X	X	X	X	3	1	3	6	3	3	X	X		3	
N3 (COR-TRAMID)	X	X	X	X	4		3				3	3	X	X		3	
N4	X	X	X	X	4		3				3	3	X	X		3	
N5	X	X	X	X	X	X	X	1	2	6	2	2	X	X		X	X
N6	X	X	X						X	6	X	X			X	X	

NAWSTP SUPPLEMENTAL COURSES

	A	J	K	L	M1	M2	N1	N2	T	U	Y1	Z
N7	X	X						X				X
N8	X				4	4			X			
N9	X	5	5	5	4	4	X			5	5	
N10	X	X			4	4		X	X			

NAWSTP REFRESHER COURSES

	A	K	L	M1	M2	N1	N2	O	P	Q	Q1	S	T	U	Y1	Z
R1	X	X	X	X	X	X	1	X	6	X	X	X	X	X	X	X
R2	X	X	X	X	X	X	1			X	X	X	X	X	X	X
R3	X	X	X	X	X	X	1					X	X	X	X	X

Notes:

1. In order to be fully qualified to fly, aircrew that are required and other personnel who are authorized to carry the HEED shall successfully complete the NAWSTP Supplemental (N7) course at intervals outlined in paragraph 8.4.2.1. HEED training shall be conducted using the NAWSTP COG 2"0" Device 9H21. HEED training in any other device is prohibited.
2. When applicable to type aircraft (i.e., equipped with parachutes).
3. Lecture material will be provided if applicable to aircraft type. Device training is authorized for selected passengers (N3) only when requested in writing by the flight approving authority. Successful completion of device training is not required to achieve an overall grade of Qualified. Device training is not authorized for CORTRAMID or project specialists.
4. Swimming evaluations for these NAWSTP courses differ from other initial and refresher programs. Information concerning these requirements may be requested by contacting authorized training activities listed in Figure E-4.
5. Optional training/training device may be requested when scheduling Multiplace Aircraft Underwater Egress training. Contact authorized training activities. See Figure E-4 for further information.
6. Lecture only for R1, N3 (Jet), and N6 students.

Figure E-5. Naval Aviation Water Survival Training Requirements (Sheets 1 of 3)

COMMAND	LOCATION	CAPABILITY
NAVMEDCLINIC NORFOLK, VA	APTD, NAS NORFOLK	FULL
NAVHOSP JACKSONVILLE, FL	APTD, NAS CECIL FIELD	FULL
NAVHOSP LONG BEACH, CA	APTD, MCAS EL TORO	FULL
NAVHOSP CORPUS CHRISTI, TX	APTD, NAS CORPUS CHRISTI, TX	FULL
NAVMEDCLINIC PORTSMOUTH, NH	APTD, NAS BRUNSWICK, ME	NO DYNAMIC EJECTION SEAT TRAINING
NAVMEDCLINIC PEARL HARBOR, HI	APTD, NAS BARBERS PT, HI	FULL
NAVHOSP PATUXENT RIVER, MD	APTD, NAS PATUXENT RIVER, MD	FULL
NAVHOSP CHERRY PT, NC	APTD, MCAS CHERRY PT, NC	FULL
NAVHOSP LEMOORE, CA	APTD, NAS LEMOORE, CA	FULL
NAVHOSP OAK HARBOR, WA	APTD, NAS WHIDBEY ISLAND, WA	FULL
NAVAEROPMEDINST PENSACOLA, FL	APTD, NAS PENSACOLA	FULL
NAVMEDCLINIC SAN DIEGO, CA	APTD, NAS MIRAMAR	FULL

THE FOLLOWING USAF SITE IS AUTHORIZED TO CONDUCT NAPTP TRAINING UNDER THE DIRECT SUPERVISION OF A NAVAL AEROSPACE PHYSIOLOGIST:

COMMAND	LOCATION	CAPABILITY
15TH PHYSIOLOGICAL TRAINING FLIGHT	KADENA AB, OKINAWA	NO DYNAMIC EJECTION SEAT TRAINING

PQS QUALIFIED NAVAL AEROSPACE PHYSIOLOGISTS ASSIGNED AS AEROMEDICAL SAFETY OFFICERS (AMSO) ARE AUTHORIZED TO CONDUCT THE REFRESHER LECTURE PHASES OF THE NAPTP CURRICULUM WHEN DYNAMIC TRAINING DEVICE EVOLUTIONS ARE NOT REQUIRED BY THIS INSTRUCTION.

Figure E-3. Naval Aviation Physiology Training Detachments

Ejection Seat		Nonejection Seat Pressurized		Nonpressurized*
A-4	F-14	C-2	T-34	AH-1
A-6	F-16	P-3	C-130	H-1
EA-6	FA-18	T-39	T-47A	H-2
AV-8	S-3	C-9	T-44	H-3
F-5	T-2	C-20	E-2C	H-46
	T-45	C-12	TC-4C	H-53
		E-6	V-22	TH-57
				H-60

* Low-pressure chamber not required for refreshers

Initial physiology training (NP) is required for all student naval aviators (SNA), student naval flight officers (SNFO), student naval flight surgeons (SNFS), student naval aerospace physiologists (SNAP), student naval aerospace experimental psychologists (SNAEP), and USN and USMC student enlisted air crewmembers. Refresher physiology training (RP) is required for all of the above aeronautically designated individuals if they continue on flight status.

NP is also required for the following personnel defined in paragraph 1.3: selected passengers, project specialists, special mission personnel, enlisted and officer noncrewmembers on flight orders (USMC), USMC aerial observers, navigation officers, helicopter machinegunners, civilian aircrew, midshipmen, VIPs, non-DOD Government personnel, and other civilians.

RP is also required for selected passengers, project specialists, special mission personnel, enlisted noncrewmembers on flight orders (USMC), USMC aerial observers, navigation officers, helicopter machinegunners, and civilian aircrew if they continue on flight status.

Training for selected passengers, project specialists, and special mission personnel is good for 36 months, but may be required more frequently if specified by the flight approving authority. Training for midshipmen, VIPs, non-DOD Government personnel, and other civilians is only good for one flight/period assigned, not to exceed 30 days.

Centrifuge/9A16 training must be completed by all aviators flying the following aircraft: A-6, AV-8, EA-6, F-5, F-14, F-16, F/A-18, and S-3.

Figure E-1. Naval Aviation Physiology Training Program Requirements (Sheet 4 of 4)

NOTES

1. 8,000-foot, low-pressure chamber flight if aircraft is equipped with a pressurization system.
2. Where device is available.
3. Upon request of air crewmen.
4. Prior to flight in ejection seat equipped aircraft.
5. Not required for helicopter refreshers.
6. Initial training conducted at NAS Pensacola has first-aid as part of land survival curriculum.
7. Multistation disorientation demonstrator is available in Pensacola only and is not required for refreshers.

LECTURES

A **Aviation Physiology.** Classroom presentation and low-pressure chamber flight (when applicable) on the effects of altitude on the human body. The principles of cardiovascular and respiratory physiology are emphasized. Presentation primarily covers hypoxia, hyperventilation, trapped gas, evolved gas (decompression sickness), and aviation oxygen systems.

B **Stress and Human Performance.** Classroom presentation discussing the various aspects of physiological, (self-imposed) psychological, environmental, and mission stressors, and their effect on performance. Major emphasis is specific for each types of community (i.e., noise and vibration, heat stress (helicopters); boredom, circadian rhythms, time zone shifts (cargo, transport, patrol); and pressurization and acceleration for tactical jet aircrews). General topics presented to all aviators are exercise, nutrition, drugs, alcohol, heat stress, dehydration, fatigue, psychological stress, and stress management.

C **Sensory Physiology.** Classroom presentation and training device evolution (when applicable) that continues discussing the effects of altitude on the human body. Specifically, the stressors of flight that affect sensory adaptation (acceleration, darkness, lack of visual cues, visual illusions, etc.) are covered. Disorientation, misorientation, temporal distortion, motion sickness caused by flight, and situational awareness are also typical topics for discussion. Depending on the aircraft type (jet, propeller, helicopter, etc.), special protective devices, such as night vision devices, laser protection, and threats such as lasers are also discussed.

D **Emergency Egress/Systems.** Classroom presentation and dynamic training evolutions (where available/appropriate) on emergency egress/systems. Lecture for tactical jets emphasizes the psychological aspects of the ejection decision, aeromedical aspects of ejection, windblast, flailing injuries, seat-man separation, parachute opening, parachute descent (over land), and landing. Emergency ground egress is also covered. Lecture for cargo/transport/patrol emphasizes bailout, parachute opening, descent (over land), and landing, as well as crash survival. Lecture for helicopters emphasizes crash survival. Note: Ditching for cargo/transport/patrol/helicopters, etc., covered in NAWSTP.

E **Aviation Life Support Systems.** Classroom presentation and drills (where available/appropriate) covering applicable ALSS items/survival/rescue equipment utilized by specific aircraft/aircrews. Helmets, antiexposure systems, flight clothing, survival vests, flotation devices, liferafts, special weapon systems like laser and CBR protection equipment, signaling devices, survival avionics, and anti-g suits for tactical aircrews are typical items discussed.

F **Survival (Self-Aid) First-Aid.** Classroom presentation and dynamic training evolutions (where available/appropriate) on emergency (survival) first-aid. Emphasis is on self-aid and using survival equipment/improvised first-aid items available to specific aircrews by type aircraft.

Figure E-1. Naval Aviation Physiology Training Program Requirements (Sheet 2 of 4)

TMR CODE	DESCRIPTION
6V2	CMBT RECON RAD/ECM
6V3	CMBT RECON GUNFIRE SPOT
6V4	CMBT RECON AMCM SEARCH
6V9	CMBT RECON ESC/COV ACFT
6W1	COMBT DEF HOME AEW/CIC
6W2	CMBT DEF HOME CMBT AIR CON
6W7	CMBT DEF HOME INTERCEPT
6X1	CMBT DEF OT AEW/CIC
6X2	CMBT DEF OT PROT RAD ACFT
6X7	CMBT DEF OT INTERCEPT
6Y1	CMBT OFF ASW ROUT SEARCH
6Y2	CMBT OFF ASW BARRIER PAT
6Y3	CMBT OFF ASW OFF SEARCH
6Y4	CMBT OFF ASW HOLD DOWN SUB DOWN SUB
6Y5	CMBT OFF ASW ATCK SUB
6Y6	CMBT OFF ASW LOC/ATCK SUB
6Y9	CMBT OFF ASW ATCK SUB FAC
6Z1	CMBT DEF ASW PROT FORCE
6Z2	CMBT DEF ASW ESC SHIPS
6Z4	CMBT DEF ASW DEF HARBOR
7N1	EXER C/A MAINT ENG/FUEL
7N2	EXER C/A MAINT HYD/FRAME
7N3	EXER C/A MAINT RADIOS
7N4	EXER C/A MAINT NAVAID
7N5	EXER C/A MAINT RAD/SYS
7N6	EXER C/A MAINT ELEC/INST
7N7	EXER C/A MAINT ORDNANCE
7N8	EXER C/A MAINT WGMAN DOWN
7N9	EXER C/A MAINT SUPT EQUIP
7N0	EXER C/A MAINT SAFETY
7O1	EXER C/A OPS WEATHER
7O2	EXER C/A OPS HIGHER AUTH
7O3	EXER C/A OPS SUPT UNIT
7O4	EXER C/A OPS NO TGT
7O5	EXER C/A OPS FAC DOWN
7O6	EXER C/A OPS AIR SPACE
7O7	EXER C/A OPS NO CREW
7O8	EXER C/A OPS ACCIDENT
7S1	EXER DES GND ATCK BEF T/O
7S2	EXER DES GND ATCK AFT T/O
7S3	EXER DES ILLUM TGT

TMR CODE	SCRIPTION
7S9	EXER DES ESC/COV NO ATCK
7T1	EXER N-DES ATCK BEF T/O
7T2	EXER N-DES TGT OPP RECON
7T3	EXER N-DES ILLUM TGT
7T4	EXER N-DES FLACK SUPPRESS
7T5	EXER N-DES MISSILE SUPPRES
7T6	EXER N-DES MINELAYING
7T7	EXER N-DES REFUEL CMBT OPS
7T8	EXER N-DES ECM SUPT TGT
7T9	EXER N-DES ESC/COV NO ATCK
7U1	EXER AWO FIGHTER SWEEPS
7U2	EXER AWO AIR PAT
7U3	EXER AWO DEF DIVER/ DECEPT
7U4	EXER AWO ECM SUPT
7U5	EXER AWO AMCM NEUT/ SWEEP
7U8	EXER AWO ESC USAF BOMBERS
7U9	EXER AWO ESC/COV TRANS
7V1	EXER RECON PHOTO
7V2	EXER RECON RAD/ECM
7V3	EXER RECON GUNFIRE SPOT
7V4	EXER RECON AMCM SEARCH
7V9	EXER RECON ESC/COV ACFT
7W1	EXER DEF HOME AEW/CIC
7W2	EXER DEF HOME CMBT AIR CON
7W7	EXER DEF HOME INTERCEPT
7X1	EXER DEF OT AEW/CIC
7X2	EXER DEF OT PROT RAD ACFT
7X7	EXER DEF OT INTERCEPT
7Y1	EXER OFF ASW ROUT SEARCH
7Y2	EXER OFF ASW BARRIER PAT
7Y3	EXER OFF ASW OFF SEARCH
7Y4	EXER OFF ASW HOLD DOWN SUB DOWN SUB
7Y5	EXER OFF ASW ATCK SUB
7Y6	EXER OFF ASW LOC/ATCK SUB
7Y9	EXER OFF ASW ATCK SUB FAC
7Z1	EXER DEF ASW PROT FORCE
7Z2	EXER DEF ASW ESC SHIPS
7Z4	EXER DEF ASW DEF HARBOR

TMR CODE	DESCRIPTION
3Y5	BGO OFF ASW ATCK SUB
3Y6	BGO OFF ASW LOC/ATCK SUB
3Y9	BGO OFF ASW ATCK SUB FAC
3Z1	BGO DEF ASW PROT FORCE
3Z2	BGO DEF ASW ESC SHIPS
3Z4	BGO DEF ASW DEF HARBOR
4N1	FMF C/A MAINT ENG/FUEL
4N2	FMF C/A MAINT HYD/FRAME
4N3	FMF C/A MAINT RADIOS
4N4	FMF C/A MAINT NAVAID
4N5	FMF C/A MAINT RAD/SYS
4N6	FMF C/A MAINT ELEC/INST
4N7	FMF C/A MAINT ORDNANCE
4N8	FMF C/A MAINT WGMAN DOWN
4N9	FMF C/A MAINT SUPT EQUIP
4N0	FMF C/A MAINT SAFETY
4O1	FMF C/A OPS WEATHER
4O2	FMF C/A OPS HIGHER AUTH
4O3	FMF C/A OPS SUPT UNIT
4O4	FMF C/A OPS NO TGT
4O5	FMF C/A OPS FAC DOWN
4O6	FMF C/A OPS AIR SPACE
4O7	FMF C/A OPS NO CREW
4O8	FMF C/A OPS ACCIDENT
4S1	FMF DES GND ATCK BEF T/O
4S2	FMF DES GND ATCK AFT T/O
4S3	FMF DES ILLUM TGT
4S9	FMF DES ESC/COV NO ATCK
4T1	FMF N-DES GND ATCK BEF T/O
4T2	FMF N-DES TGT OPP RECON
4T3	FMF N-DES ILLUM TGT
4T4	FMF N-DES FLACK SUPPRESS
4T5	FMF N-DES MISSILE SUPPRESS
4T6	FMF N-DES MINELAYING
4T7	FMF N-DES REFUEL CMBT OPS
4T8	FMF N-DES ECM SUPT TGT
4T9	FMF N-DES ESC/COV NO ATCK
4U1	FMF AWO FIGHTER SWEEPS
4U2	FMF AWO CMBT AIR PAT
4U3	FMF AWO DEF DIVER/DECEPT
4U4	FMF AWO ECM SUPT FROM ACFT
4U5	FMF AWO AMCM NEUT/SWEEP
4U8	FMF AWO ESC USAF BOMBERS

TMR CODE	DESCRIPTION
4U9	FMF AWO ESC/COV TRANS
4V1	FMF RECON PHOTO
4V2	FMF RECON RAD/ECM
4V3	FMF RECON GUNFIRE SPOT
4V4	FMF RECON AMCM SEARCH
4V9	FMF RECON ESC/COV
4W1	FMF DEF HOME AEW/CIC
4W2	FMF DEF HOME CMBT AIR CONT
4W7	FMF DEF HOME INTERCEPT
4X1	FMF DEF OT AEW/CIC
4X2	FMF DEF OT PROT RAD ACFT
4X7	FMF DEF OT INTERCEP
4Y1	FMF OFF ASW ROUT SEARCH
4Y2	FMF OFF ASW BARRIER PAT
4Y3	FMF OFF ASW OFF SEARCH
4Y4	FMF OFF ASW HOLD DOWN SUB
4Y5	FMF OFF ASW ATCK SUB
4Y6	FMF OFF ASW LOC/ATCK SUB
4Y9	FMF OFF ASW ATCK SUB FAC
4Z1	FMF DEF ASW PROT FORCE
4Z2	FMF DEF ASW ESC SHIPS
4Z4	FMF DEF ASW DEF HARBOR
5N1	CONT C/A MAINT ENG/FUEL
5N2	CONT C/A MAINT HYD/FRAME
5N3	CONT C/A MAINT RADIOS
5N4	CONT C/A MAINT NAVAID
5N5	CONT C/A MAINT RAD/SYS
5N6	CONT C/A MAINT ELEC/INST
5N7	CONT C/A MAINT ORDNANCE
5N8	CONT C/A MAINT WGMAN DOWN
5N9	CONT C/A MAINT SUPT EQUIP
5N0	CONT C/A MAINT SAFETY
5O1	CONT C/A OPS WEATHER
5O2	CONT C/A OPS HIGHER AUTH
5O3	CONT C/A OPS SUPT UNIT
5O4	CONT C/A OPS NO TGT
5O5	CONT C/A OPS FAC DOWN
5O6	CONT C/A OPS AIR SPACE
5O7	CONT C/A OPS NO CREW
5O8	CONT C/A OPS ACCIDENT
5S1	CONT DES GND ATCK BEF T/O
5S2	CONT DES GND ATCK AFT T/O

TMR CODE	DESCRIPTION
1I2	TRNG FRGN INST
1I3	TRNG FRGN FCLP/CAL
1I4	TRNG FRGN CQ
1I5	TRNG FRGN TRANS
1I6	TRNG FRGN AIR CMBT
1I7	TRNG FRGN ATCK
1I8	TRNG FRGN ASW
1I9	TRNG FRGN SP EQUIP
1I0	TRNG FRGN UNSAT FLT
1N1	TRNG C/A MAINT ENG/FUEL
1N2	TRNG C/A MAINT HYD/ FRAME
1N3	TRNG C/A MAINT RADIOS
1N4	TRNG C/A MAINT NAVAID
1N5	TRNG C/A MAINT RAD/SYS
1N6	TRNG C/A MAINT ELEC/INST
1N7	TRNG C/A MAINT ORDNANCE
1N8	TRNG C/A MAINT WGMAN DOWN
1N9	TRNG C/A MAINT SUPT EQUIP
1N0	TRNG C/A MAINT SAFETY
1O1	TRNG C/A OPS WEATHER
1O2	TRNG C/A OPS HIGHER AUTH
1O3	TRNG C/A OPS SUPT UNIT
1O4	TRNG C/A OPS NO TGT
1O5	TRNG C/A OPS FAC DOWN
1O6	TRNG C/A OPS AIR SPACE
1O7	TRNG C/A OPS NO CREW
1O8	TRNG C/A OPS ACCIDENT
1P1	TRNG SAR/WATER MIL SUPT
1P2	TRNG SAR/LAND MIL SUPT
1P3	TRNG SAR/WATER N-DOD
1P4	TRNG SAR/LAND N-DOD
1P5	TRNG SAR/MEDEVAC MIL SUPT
1P6	TRNG SAR/MEDEVAC N-DOD
1P7	TRNG SAR/MEDEVAC LAND CMBT
1P8	TRNG SAR/WATER CMBT
1P9	TRNG SAR/LAND CMBT
1P0	TRNG SAR
1R4	TRNG TRANS TRP IN/OUT CMBT
1R5	TRNG TRANS LSN IN/OUT CMBT
1R6	TRNG TRANS LOG IN/OUT CMBT

TMR CODE	DESCRIPTION
2J1	SUPT FERRY FLEET FUND
2J2	SUPT FERRY SQDN FUND
2K1	SUPT TEST FLEET FUND
2K2	SUPT TEST SQDN FUND
2K3	SUPT TEST OBS/CHASE TGT
2K4	SUPT BOGEY FOR OT ACFT
2K5	SUPT BOGEY FOR GND UNIT
2K6	SUPT BOGEY FOR SHIP OPS
2K7	SUPT FLY QUAL/PERF EVAL
2K8	SUPT ACCEL SERV/PROP EVAL
2K9	SUPT NAV/WEAP/EW EVAL
2K0	SUPT CARR SUIT/DYN EVAL
2L1	SUPT EXPM/EVAL OT&E
2L2	SUPT EXPM/EVAL ORI
2L3	SUPT EXPM/EVAL INST CHECK
2L4	SUPT EXPM/EVAL NATOPS
2L5	SUPT EXPM/EVAL STANDARD
2L6	SUPT EXPM/EVAL SP WEAPONS
2L7	SUPT ORD/CONV/NUC EVAL
2L8	SUPT DRONE/TGT TOW
2L9	SUPT ACFT/SURV SYS EVAL
2L0	SUPT PROJECT/OTHER
2M1	LOG SUPT MAG/CAG
2M2	LOG SUPT MAW/FUNCT WING
2M3	LOG SUPT NAS/MCAS
2M4	LOG SUPT FMF/CINC
2M5	LOG SUPT CMC/CNO
2M6	LOG SUPT TYCOM/MARDIV
2N1	SUPT C/A MAINT ENG/FUEL
2N2	SUPT C/A MAINT HYD/FRAME
2N3	SUPT C/A MAINT RADIOS
2N4	SUPT C/A MAINT NAVAID
2N5	SUPT C/A MAINT RAD/SYS
2N6	SUPT C/A MAINT ELEC/INST
2N7	SUPT C/A MAINT ORDNANCE
2N8	SUPT C/A MAINT WGMAN DOWN
2N9	SUPT C/A MAINT SUPT EQUIP
2N0	SUPT C/A MAINT SAFETY
2O1	SUPT C/A OPS WEATHER
2O2	SUPT C/A OPS HIGHER AUTH
2O3	SUPT C/A OPS SUPT UNIT
2O4	SUPT C/A OPS NO TGT
2O5	SUPT C/A OPS FAC DOWN

T8 — ECM support for attack operations against ground or surface targets.

T9 — Escort to cover for above (VF or VA not assigned to attack).

d. SPCs to be used with GPC U for antiair warfare offensive missions (primary objective aircraft; any other target secondary):

U1 — Fighter sweeps, intruder missions, night airfield heckling.

U2 — Combat air patrol over enemy airfields or other targets.

U3 — Offensive diversion and deception missions (other than attack sweep or intruder).

U4 — ECM support for attack operations against aircraft targets.

U5 — AMCM mine neutralization/mine sweep.

U8 — Escort or cover of Air Force bombers.

U9 — Escort or cover of transport aircraft.

e. SPCs to be used with GPC V for reconnaissance missions (except armed reconnaissance and ASW search):

V1 — Photographic reconnaissance.

V2 — Radar and ECM reconnaissance, radar mapping, etc.

V3 — Gunfire spotting, air support controller, and other visual reconnaissance of enemy areas. Exclude weather (Q1) and survivor search (P).

V4 — AMCM mine search/mine hunting.

V9 — Escort or cover for reconnaissance aircraft.

f. SPCs to be used with GPC W for air defense of own air base (carrier force or land base) from which aircraft departs:

W1 — AEW or airborne CIC and its escort or cover.

W2 — Combat air patrol, local or advanced.

W7 — Intercept (scramble).

g. SPCs to be used with GPC X for air defense of other forces or bases:

X1 — AEW or airborne CIC and its escort or cover.

X2 — Special combat air patrol to protect radar picket or aircraft.

X7 — Intercept (scramble).

h. SPCs to be used with GPC Y for offensive ASW missions:

Y1 — Routine sector or area search.

Y2 — Barrier patrol.

Y3 — Offensive search.

Y4 — Hold-down of located submarine.

Y5 — Attack on located submarine.

Y6 — Locate and attack submarine.

Y9 — Attack submarine facilities (including operational bases, shipyard, or other logistical facilities, etc.).

i. SPCs to be used with GPC Z for defensive ASW missions:

Z1 — Protection of own force underway (by aircraft based on ships of same force).

Z2 — Escort of vessels not in own force (by ship-based or land-based aircraft).

Z4 — Defensive patrol of harbor or other limited area.

Note

Generally, the distinction between offensive ASW (Y codes) and defensive ASW (Z codes) is the primary mission of the force involved. If it is not primarily an ASW force, the ASW conducted to protect itself from attack by submarine is defensive ASW. But if it is primarily an ASW force (primary mission is ASW), all the ASW it conducts is offensive, including ASW conducted to protect itself.

M6 — TYCOM/division commitment: Flights flown in support of the type commander or of a Marine division.

c. Code N (Maintenance) — Use code N to document aborts or cancellations for maintenance reasons.

N1 — Engine or fuel system.

N2 — Hydraulics, flight controls, or airframe.

N3 — Avionics, communication.

N4 — Avionics, NAVAID.

N5 — Avionics, radar/systems.

N6 — Avionics, electronics/instruments.

N7 — Ordnance system.

N8 — Wingman's aircraft down.

N9 — Support equipment.

N0 — Safety of flight (initiated by higher authority, usually by message).

d. Code O (Operations) — Use code O to document aborts or cancellations initiated by operations.

O1 — Weather.

O2 — Mission canceled by higher authority.

O3 — Mission canceled by supported or requesting unit.

O4 — Targets or range not available.

O5 — Required airfield services or navigational facilities not available (tacan, carrier, mirror, etc.).

O6 — Controlled airspace not available.

O7 — Required crewman incapacitated/unavailable.

O8 — Aircraft accident.

O9 — Mission canceled by projects.

D.5.3 SPCs Used With GPC P. SPCs to be used with GPC P for all search and/or rescue (includes any flight, scheduled or unscheduled, in support of a search and/or rescue effort) or medical evacuation (includes any flight, scheduled or unscheduled, providing evacuation or other transport of hospitalized and/or medically stabilized personnel) flights are listed as follows:

P1 — Search and/or rescue flight conducted over water in support of military personnel.

P2 — Search and/or rescue flight conducted over land in support of military personnel.

P3 — Search and/or rescue flight conducted over water in support of non-DOD personnel.

P4 — Search and/or rescue flight conducted over land in support of non-DOD personnel.

P5 — Medical evacuation flown in support of military personnel.

P6 — Medical evacuation flown in support of non-DOD personnel.

P7 — Search and/or rescue flight into, out of, or over an area where enemy fire is received or can reasonably be expected.

P8 — Search and/or rescue flight into, out of, or over an area over water where enemy fire is received or can reasonably be expected.

P9 — Search and/or rescue flight into, out of, or over an area over land where enemy fire is received or can reasonably be expected.

P0 — Search and/or rescue training.

D.5.4 SPCs Used With GPC Q. SPCs to be used with GPC Q for miscellaneous nontraining service flights are listed as follows:

Q1 — Aerological (including combat weather reconnaissance).

Q2 — Noncombat patrol or search (other than survivor search, rescue, weather).

Q3 — Noncombat photography or radar mapping.

Q4 — Air shows and demonstrations not classified as tactical exercises.

Q5 — Noncombat, nontraining flights not elsewhere classified.

(2) FPC 2 must be used with GPCs of J through R.

(3) FPCs 3 through 7 must be used with GPCs S through Z.

c. The third position of the TMR is the specific purpose code (SPC) and denotes the specific purpose of the flight.

D.4 GENERAL/SPECIFIC PURPOSE OF FLIGHT CODE COMBINATIONS A THROUGH I (TRAINING FLIGHTS)

D.4.1 General Purpose Codes. GPCs for training flights (A through I) are used as follows:

a. Use code A if the flight is for training, exercises, or simulated operations conducted by a fleet/Fleet Marine Force (FMF)/air reserve squadron or unit (nontraining command) to which the pilot is attached when such flight maintains or advances the ability of the squadron or unit to perform the mission for which organized. May be used for flights by training command personnel that do not properly fall under codes C through I.

b. Use code B if flight is for syllabus training of a designated naval aviator undergoing formal instructor training (IUT).

c. Use code C within air commands for pilots assigned thereto when locally imposed requirements for a particular kind of flying are necessary to prepare for satisfactory performance within the command.

Note

When a pilot flies with a squadron or other unit whose primary mission is carried out by the flight of aircraft, he/she may consider himself/herself an integral part of that unit. If he/she makes a flight that maintains or advances the ability or readiness of the unit to perform its assigned mission, the purpose of the flight is unit training (code A), and the effect on individual proficiency is irrelevant.

d. Use code D, E, F, or G for flights by Navy and Marine Corps aircrew attached to units of CNATRA (excluding reserves) as required or provided by training command training syllabus.

(1) Use code D if flight is for syllabus training of a student naval aviator undergoing formal training to become a designated naval aviator.

(2) Use code E if flight is for syllabus training of a designated naval aviator undergoing formal refresher training.

(3) Use code F if flight is for syllabus training of a designated naval aviator when the purpose of the flight does not support a formal training syllabus (i.e., standardization evaluations, instrument checks, or attaining minimum annual flying requirements).

(4) Use code G if flight is for special training (including crew training) for completion of a nonpilot training command student syllabus (i.e., NFO, AI, midshipmen, student flight surgeon training).

e. Use code H or I for training of nonnaval personnel.

(1) Use code H if flight is for the purpose of training, familiarization, or proficiency of personnel of other services of the United States (i.e., Air Force, Army, Coast Guard).

(2) Use code I if flight is for the purpose of training, familiarization, or proficiency of personnel of foreign countries.

D.4.2 Specific Purpose Codes. SPCs to be used with GPCs A through I are listed below. Codes A through I must always be followed by one of the number codes listed below, selecting the code denoting the primary type of training (if syllabus flight, the most advanced requirement being met; if nonsyllabus flight, that on which most effort was spent). In any case, the character following codes A through I shall always refer to the following list:

1 — Fundamentals — Familiarization, aerobatics, formation, cross-country, navigation, etc.

2 — Instrument — General instrument or all-weather, when principal objective of flight.

3 — Field carrier landing practice.

4 — Carrier qualification.

5 — Transition — Jet, VP, VR, helicopter, etc.

NUMBER	SOURCE	TITLE
3710.31D	OPNAV	Operational Procedures for Aircraft Carrying Hazardous Materials
3721.5J	OPNAV	Naval Air Traffic Control, Air Navigational Aids, and Landing Systems (NAALS) Program
3721.20A	OPNAV	The U.S. Military Notice to Airmen (NOTAM) System
3722.30C (NOTAL)	OPNAV	Security Control of Air Traffic and Air Navigation Aids (SCATANA)
3750.6Q (NOTAL)	OPNAV	Naval Aviation Safety Program
3750.16B	OPNAV	Participation in a Military or Civil Aircraft Accident Safety Investigation
3770.1C	SECNAV	Use of Department of the Navy Aviation Facilities by Other Than United States Department of Defense Aircraft
3770.2H (NOTAL)	OPNAV	Airspace Procedures Manual
3770.4A (NOTAL)	OPNAV	Use of Airspace by U.S. Military Aircraft and Firing Over the High Seas
4630.9C	OPNAV	Worldwide Aeromedical Evacuation
4630.16C	OPNAV	Revenue Traffic Transported on Department of Defense Aircraft Other Than Airlift Service; Industrial Fund (MAC)
4630.25B (NOTAL)	OPNAV	Air Transportation Eligibility
4631.2C (NOTAL)	OPNAV	Management of Department of the Navy (DON) Airlift Assets
4790.2E (NOTAL)	OPNAV	The Naval Aviation Maintenance Program (NAMP)
5030.4D	OPNAV	Naval Aviation Insignia
5100.11	BUMED	Aeromedical Safety Officer (AMSO) Program; Establishment of
5100.12B	SPAWAR	Navy Laser Hazards Control Program
5211.5D (NOTAL)	SECNAV	Department of the Navy Privacy Act (PA) Program
5370.8	SECNAV	Military Whistleblower Protection
5442.2G (NOTAL)	OPNAV	Aircraft Inventory Reporting System (AIRS)
5510.34 (NOTAL)	SECNAV	Department of the Navy Manual for the Disclosure of Classified Military Information to Foreign Governments and International Organizations

B.1.2.2 Other Composite and Combat Support Units. Composite, development, and combat support squadrons and units, other than those squadrons/ detachments mentioned in paragraph B.1.2.1, shall number their aircraft with one, two, or three octal numerals.

B.1.2.3 Naval Air Training Command Squadrons and Units. Squadrons and units of CNATRA shall number their aircraft as directed by the Chief of Naval Air Training.

B.1.2.4 Readiness Training Squadrons. Readiness training squadrons with aircraft employing the automatic carrier landing system (ACLS) shall number their aircraft with three-digit octal numerals.

B.1.2.5 Other Units. Activities and units other than those included above shall number their aircraft by utilizing the last three digits of the bureau number.

B.1.3 Marking of Aircraft. The provisions of the current version of Military Specification for Insignia and Markings for Naval Aircraft (MIL-I-18464G(AS)) apply in the implementation of the visual identification system.

NATOPS PERSONNEL TRAINING/QUALIFICATION JACKET
OPNAV 3760/32H (4-81) SN 0107-LF-736-2190

SECTION IVB – MISHAP/FLIGHT VIOLATION RECORD

NAME (Last, first, middle initial)	SSN

DATE	UNIT	MISHAP DESCRIPTION	COMMANDING OFFICER'S SIGNATURE

Figure A-8. Mishap/Flight Violation Record

NATOPS FLIGHT PERSONNEL TRAINING/QUALIFICATION JACKET
OPNAV 3760/32G (Rev 4-90) S/N 0107-LF-009-7800

SECTION IIIC – EXAMINATION RECORD

NAME *(Last, first, middle initial)* | SSN

NATOPS EXAMS

OPEN BOOK				CLOSED BOOK			
DATE	GRADE	PASS/FAIL	GRADED BY	DATE	GRADE	PASS/FAIL	GRADED BY

INSTRUMENT EXAM				COURSE RULES		OTHER EXAMS				
DATE	GRADE	PASS/FAIL	GRADED BY	DATE	GRADE	TITLE	DATE	GRADE	PASS/FAIL	GRADED BY

Figure A-7. Examination Record

NATOPS FLIGHT PERSONNEL TRAINING/QUALIFICATION JACKET
OPNAV 3760/32F (Rev 4-90) S/N 0107-LF-009-7700

SECTION IIIB -- OPERATIONAL PHYSIOLOGY & SURVIVAL TRAINING

NAME (*Last, first, middle initial*)	RANK/RATE	SSN

COURSE CATEGORY	DATE	GRADE	UNIT	SIGNATURE	COURSE CATEGORY	DATE	GRADE	UNIT	SIGNATURE

Figure A-6. Operational Physiology and Survival Training (Sheet 1 of 2)

NATOPS FLIGHT PERSONNEL TRAINING/QUALIFICATION JACKET
OPNAV 3760/32D (Rev 4-90) S/N 0107-LF-009-7500

SECTION IIB – MISSION QUALIFICATION RECORD

NAME *(Last, first, middle initial)* | SSN

EFFECTIVE DATE	TYPE AIRCRAFT	MISSION QUALIFICATION	UNIT	REMARKS

Figure A-4. Mission Qualification Record

NATOPS FLIGHT PERSONNEL TRAINING/QUALIFICATION JACKET
OPNAV 3760/32B (4-81) SN 0107-LF-736-2130

SECTION ID -- RECORD OF FLIGHT EQUIPMENT ISSUE

NAME *(Last, first, middle initial)* | SSN

ACTION CODE
O – ORIGINAL ISSUE R – REPLACEMENT ISSUE N – RETURNED OR SURVEYED OUT; NOT REPLACED

ITEM	DATE	ACTION CODE	ISSUED/RECEIVED BY
BOOTS, SAFETY, FLYING			
COVERALLS, ANTI-G TYPE			
COVERALLS, ASSY			
COVERALLS, SUMMER, FLYING			
COVERALLS, LANDING SIGNAL, OFFICER'S			
COMPUTER, NAVIGATION			
GLASSES, SUN			
GLOVES, FLYING SUMMER			
HELMET, PILOT'S PROTECTIVE			
HOOD, WINTER			
JACKET, FLIGHT, LEATHER, INTERMEDIATE			

When replacing flight clothing record form, carry forward last entry for each item.

Figure A-2. Flight Equipment Issue Record

A.2 ASSEMBLY AND MAINTENANCE

A.2.1 General

a. Part A shall contain the NATOPS flight personnel training/qualification jacket review and certification record. OPNAV 3760/32A (Figure A-1) shall be utilized.

b. Part B shall contain a copy of only the most recent PCS orders showing the current authority for flying status. Letters from enlisted aircrew indicating their volunteer flight status shall be filed in this section. Letters of suspension and/or revocation of flying status shall be filed in this part for permanent retention.

c. Part C shall contain the signed original of the current standard BUMED 6410/1 or 6410/2 (aeromedical grounding or clearance notices). Forms maintained include those covering annual flight physicals and most current up chits from any grounded period. (The exception being a grounding notice that "expires automatically," in which case a clearance notice is not required.) They will be retained until the succeeding year's annual flight physical clearance notice is received. Medical waivers shall be retained as long as they are in effect.

d. Part D shall contain a record of flight equipment issued. OPNAV 3760/32B (Figure A-2) shall be utilized.

A.2.2 Qualifications and Achievements

a. Part A shall contain a permanent record of all functional designations prescribed in Chapters 12 and 13 and specific NATOPS manuals. Examples of qualifications to be recorded on OPNAV 3760/32C (Figure A-3) are aircraft commander, helicopter, second pilot, maintenance functional check pilot, and NATOPS evaluator/instructor. To maintain a historical record, copies of designation letters containing designation dates and approving authority signature shall be maintained following OPNAV 3760/32C.

b. Part B shall contain a permanent record of all other designations not included in Part A above. Tactical-oriented and mission-oriented designation shall be recorded on OPNAV 3760/32D (Figure A-4). Designation letters may also be retained in this part.

A.2.3 Training

a. Part A shall contain a record of all formal schools and courses attended. OPNAV 3760/32E (Figure A-5) shall be utilized. Regular squadron and ground training lectures will not be included. Part A, Section 3 shall also include a copy of the training command student summary and all FRS summaries for training completed after 1 January 1988. Summaries for training completed prior to this date are desired but not mandatory.

b. Part B shall contain a permanent record of NAWSTP, NAPTP, SERE, and annual egress training. OPNAV 3760/32F (Figure A-6) shall be utilized. Training course description and signature are required as documentation. Annual egress training conducted locally for other than ejection seat equipped aircraft shall be recorded on OPNAV 3760/32F. No further documentation is necessary or desired.

c. Part C shall contain a record of the grades of all examinations (on a 4.0 scale) pertinent to the individual's aviation qualifications. OPNAV 3760/32G (Figure A-7) shall be utilized. The most current open and closed book exam or answer sheet, or memorandum of completion (with exam grades) for both NATOPS and instrument rating requests, shall be included following OPNAV 3760/32G.

d. Part D shall contain all NATOPS evaluation records (OPNAV 3710/7). (Effective from the date of this instruction, Marine Corps commands shall include a NATOPS evaluation form with each OPNAV 3710/7. Samples may be found in MCO P3500.14 and individual NATOPS manuals.)

e. Part E shall contain *all* instrument rating requests (OPNAV 3710/2 (revised January 1974)). If a waiver of instrument qualification has been granted, this section shall contain the waiver.

A.2.4 Flight Records

a. The Aviators Flight Log Book is the official document of pilot history. Copies of MIFARs for the current fiscal year should be maintained in Part A.

b. Part B shall contain a permanent record of all aircraft mishaps and flight violations involving a pilot cause factor. Only entries authorized by paragraph 10.5.2.8 shall be made. OPNAV 3760/32H (Figure A-8) shall be utilized.

A.2.5 Procurement

a. The basic jacket with dividers, OPNAV 3760/32 (Rev. 4-81), may be ordered using S/N 0107-LF-736-2112. Existing jackets, OPNAV 3760/32 (Rev. 11-73), may be adapted to this instruction by inserting forms listed in subparagraph b.

(4) A clock displaying hours, minutes, and seconds with a sweep-second pointer or digital readout

(5) Attitude indicator

(6) Magnetic compass with current calibration card

(7) Heading indicator or gyrostabilized magnetic compass

(8) Vertical speed indicator.

c. Aircraft shall be equipped with deicing or icing control equipment for sustained or continuous flight in known or forecast icing conditions.

d. Navigation lights must operate satisfactorily.

13.3.2 Communication, Navigation, Identification (CNI) Equipment

a. The aircraft shall have two-way radio communication equipment and operating navigation equipment required for the en route and approach navigation aids to be used and on which the clearance is predicated.

b. Pilots planning to operate in or through areas that require special communication frequencies shall ensure that the frequencies are available in the aircraft.

c. A functioning radar beacon transponder is required for flight in airspace where FAR specify such equipment.

d. When operating with a servoed altimeter below FL 180, use either the STANDBY or RESET mode and use only the RESET mode when operating above FL 180.

13.3.3 Instrument Navigation Packet. The following items constitute the minimum required articles to be included in instrument navigation packets. Additional items may be included when required by local operating procedures.

a. Appropriate FLIPs

b. Navigation computer

c. Navigation flight log forms

d. Appropriate aeronautical charts.

13.4 INSTRUMENT RATING FORMS

A pilot shall make application for an instrument rating by submitting a NATOPS instrument rating request (OPNAV 3710/2, Figure 13-1) in accordance with the NATOPS Instrument Flight Manual. The completed OPNAV 3710/2 shall constitute issuance of an instrument rating.

13.5 AIRCRAFT CONSIDERATIONS

Instrument ratings shall be valid in all aircraft in which the pilot is instrument qualified regardless of the model in which the check was flown. A pilot may be considered to be instrument qualified in an aircraft when he/she has completed the evaluation as outlined in each respective NATOPS manual and has met the requirements for an instrument rating as outlined in this chapter. In aircraft for which there is no NATOPS guidance, 10 first pilot hours in model may be substituted as a minimum requirement.

completion of an approved instrument examination prior to flight evaluation.

Additionally, naval aviators delineated in paragraph 13.1.1.1 shall:

c. Satisfactorily complete an instrument evaluation flight conducted by a designated military aviator or NFO (if authorized by individual aircraft NATOPS manual) in an aircraft or approved simulator. The conduct, content, and grading criteria of the flight shall be in accordance with the NATOPS Instrument Flight Manual.

Note

- The written examination must be completed with a grade of Qualified within 60 days prior to commencing the evaluation flight. The instrument evaluation flight may be combined with an aircraft NATOPS evaluation flight if all written examination requirements are satisfied prior to the flight.

- NFOs may at the discretion of their type commanders be required to complete an instrument flight evaluation. If an instrument flight evaluation is deemed necessary, it may be accomplished in conjunction with the NFO aircraft NATOPS evaluation flight. The written examination must be completed with a grade of Qualified prior to commencing the flight evaluation.

13.1.2.4 Extensions. The expiration date for instrument ratings may be extended under the following conditions.

a. Commanding officers may extend the expiration date of instrument ratings/qualifications issued to naval aviators/NFOs that would otherwise expire during the period of a long deployment. The expiration date for the extension shall not be later than 90 days after return from deployment.

b. After thorough review, issuing authority may grant written extension not to exceed 6 months for original issue or renewal of instrument ratings in those cases that so merit because of circumstances beyond the control of the individual. Such circumstances will normally be limited to hospitalization, temporary removal from flying status by competent authority, or assignment to a billet where certain flight requirements have been waived by CNO or CMC.

c. In both cases, extension letters shall be filed permanently with the instrument check form (OPNAV 3710/2) for which the extension is granted in section III, part E (instrument rating) of the NATOPS flight personnel training/qualification jacket. See paragraph A.2.3e.

13.1.2.5 Issuing Authority. The commanding officer or reporting senior, as appropriate, is the issuing authority for instrument ratings/qualifications to naval aviators and NFOs.

13.1.3 Composition and Functions of Instrument Flight Boards. Each station, squadron, wing, ship, detachment or equivalent, or higher authority as appropriate, shall establish an instrument flight board composed of designated military aviators and NFOs, as applicable. Commanding officers of squadrons whose pilots are required to complete a formal instrument course at designated instrument training squadrons need not comply with this requirement. It shall be the function of those boards to conduct instrument evaluations of naval pilots in accordance with the provisions of this instruction. It is desired, insofar as possible, that members of instrument flight boards hold a special instrument rating. Where it is not feasible for an activity to establish an instrument flight board, arrangements shall be made with neighboring boards to conduct instrument evaluations. Pilots on duty at isolated areas or at joint activities should normally obtain their evaluations from naval instrument flight boards. If this is not feasible, they may be evaluated by any U.S. military pilot holding a valid instrument rating.

13.2 REQUIREMENT FOR INSTRUMENT RATINGS

13.2.1 Standard Rating. Minimum requirements for a standard instrument rating are as follows:

a. Fifty hours of instrument pilot time under actual or simulated instrument conditions.

b. Successfully complete a NATOPS instrument evaluation in accordance with the NATOPS Instrument Flight Manual.

c. Within the 6 months preceding the date of the instrument evaluation flight obtain:

(1) Six hours as pilot under actual or simulated instrument conditions

suspend a pilot's qualification for a serious breach of flight rules, demonstrated lack of ability, or serious errors of judgment. For guidance in respect to revocation or lengthy suspension of qualifications, attention is directed to MILPERSMAN, article 3410300, and MCO P1000.6 (ACTS Manual), paragraphs 2005 and 3005.

12.8.4.3 Additional Requirements. Nothing in this instruction is intended to curtail establishment of any additional or special requirements that may be considered necessary for the qualification of a pilot in the classifications previously listed. The provisions of this instruction are not to be interpreted as contrary to proficiency standards that have been or may be established by appropriate authority.

12.9 QUALIFICATION IN JET AND/OR HELICOPTER AIRCRAFT

Pilot transition into jet or helicopter aircraft (initial qualification) will normally be accomplished through a formal syllabus administered by CNATRA or other established training activity. Circumstances may occur where it is desirable or necessary that such transition training be administered by other commands. Commands capable of performing such transition training with no degradation of training quality or safety may do so providing they meet the requirements stated in paragraph 12.9.1.

12.9.1 Minimum Training Syllabus Requirements. Where the NATOPS manual does not specify a transition syllabus, the following minimum syllabus requirements for transition to jet and/or helicopter aircraft shall apply.

12.9.1.1 All Pilots. All pilots shall:

a. Successfully complete the approved OFT/WST and naval air maintenance trainer (NAMT) syllabus(es) or equivalent

b. Satisfactorily complete a NATOPS evaluation in model.

12.9.1.2 Helicopter Transition Pilots. All helicopter transition pilots shall complete:

a. The prescribed CNATRA written examination on helicopter aerodynamics

b. A minimum of 25 flight hours of dual instruction under the tutelage of a designated instructor

c. A minimum of 5 additional flight hours of training that shall be solo when conducted in a helicopter model in which single-piloted flight is authorized.

12.9.1.3 Jet Transition Pilots. All jet transition pilots shall complete:

a. A minimum of 10 flight hours of dual instruction under the tutelage of a designated instructor

b. A minimum of 5 additional flight hours of solo syllabus training.

12.9.1.4 All Fixed-Wing Multiengine Transition Pilots. All fixed-wing multiengine pilots shall complete:

a. A minimum of 10 flight hours of dual instruction with a designated instructor

b. A minimum of 5 additional flight hours of syllabus training.

12.9.2 Action. Commanding officers or their seniors in the chain of command desiring to initiate jet/helicopter transition training shall comply with the following:

a. Prior to initiating training, submit the training syllabus to CNO (N889) for approval.

Note

Commands may implement syllabuses prescribed in the aircraft NATOPS manuals without further approval of CNO.

b. Screen applicants to ensure that transition training is in the best interests of the naval establishment.

c. Administer ground and flight training, as necessary, in accordance with the approved syllabus.

d. Enter qualifications achieved in the flight personnel training/qualifications jacket.

12.9.3 Chief of Naval Air Training Responsibility. CNATRA shall:

a. Continue to provide transition training in accordance with approved quotas and syllabuses.

mission includes tasks or employment that demand operational and tactical knowledge or proficiency differing appreciably from that gained on initial qualification.

12.4.3.3 Time Limits. Under normal conditions, an NFO serving in a billet that requires eventual qualification as an NFO crewmember will gain initial qualification as such within 24 months after reporting to the command. Requalification after lapse of qualification should be attained within 6 months. Type commanders, using these limits as a guide, shall establish specific maximum time limits for qualification and requalification based on the class of aircraft and the unit employment. Amplifying instructions shall prescribe procedures for the disposition of NFOs who fail to qualify within the specified time limit.

12.5 MARINE AERIAL NAVIGATION OFFICER

a. For navigators of aircraft requiring a qualified aerial navigation officer, the following classification is established: aerial navigation officer (transport/aerial refueler aircraft).

b. The following are the specific requirements for qualification:

(1) Must have successfully completed the Aerial Navigator School

(2) Must meet the requirements delineated in paragraph 12.4.2, as applicable.

12.6 TRAINING OF ENLISTED FLIGHT PERSONNEL

This section amplifies the requirements for training enlisted personnel in a flight status contained in MILPERSMAN, articles 2620150 and 2620300, and DOD Pay Manual, Part 2, Chapter 1, articles 20101-20114 inclusive.

12.6.1 General

12.6.2 Flight Records. Commanding officers of units having allocations of enlisted flight orders shall ensure that all enlisted flightcrew are documented in accordance with Chapter 10 of this instruction. MIFAR will be used as the individual's flying time record.

12.6.3 Auditing of Enlisted Flight Record. A Flight Order Audit Board consisting of at least three members, including one Supply Corps officer (when assigned), shall audit enlisted flight records to ensure that all requirements for hazardous duty pay have been met. The audit should be performed immediately following the end of each month in accordance with BUPERSINST 1326.4 or MCO 1326.2 and prior to the submission of flight certificates. All entries and documents pertaining to flight order administration shall be included.

12.6.4 Allocation of Temporary Flight Orders. Commanding officers shall submit their requirements for noncrewmember special mission flight orders as required by higher authority. When flight orders and monetary limitations are received, they allocate them within their command. Temporary flight orders (DIFTEM) shall only be allocated to individuals by BUPERS or NAVRESPERSCEN. Temporary flight orders as well as noncrewmember special mission aircrew orders shall be issued only to those personnel who have been found physically qualified in accordance with MANMED and have satisfied the requirements of applicable paragraphs of Chapter 8 of this instruction.

12.7 CLASSIFICATION AND QUALIFICATION OF NAVAL AIR CREWMAN

12.7.1 Naval Air Crewman Classification. Classifications of naval air crewmen are established in the Navy Enlisted Classification Code Manual (NAVPERS 18068), the Military Occupation Specialty Manual, aircraft NATOPS manuals, and other applicable naval directives.

12.7.2 General Requirements for Qualification as Naval Air Crewman. All naval aircrew shall meet the following requirements for qualification and requalification.

a. Comply with requirements of Chapter 8.

b. Log at least 50 hours of training/operational flight time in the crew position and aircraft in which qualification is desired. Satisfactory completion of a CNO-approved aircrew training syllabus may be substituted in lieu of this requirement.

c. Complete a NATOPS evaluation in the crew position in accordance with the applicable NATOPS manual.

12.7.3 Proficiency. A naval aircrew designation is valid only in the aircraft model (paragraph 1.3) (P-3, S-3, SH-3) in which the qualification was achieved. Proficiency in all requirements for initial qualification must be maintained and demonstrated periodically. Regular performance of aircrew duties sufficient to satisfy the requirements for crewmember flight orders is the minimum proficiency standard to retain qualification.

d. Satisfactorily complete a NATOPS evaluation in model.

12.3.2.2 Helicopter Aircraft Commander. To be qualified as a helicopter aircraft commander, the NATOPS manual shall establish the designation for the particular model, and an individual shall:

a. Have completed the requirements for and possess to an advanced degree the knowledge, proficiency, and capabilities of a second pilot

b. Have a minimum of 500 total flight hours

c. Have 150 flight hours in rotary-wing aircraft

d. Have pilot hours in class and model required by the commanding officer or higher authority and demonstrate the proficiency and judgment required to ensure the successful accomplishment of all tasks of the unit mission

e. Demonstrate ability to command and train the officers and enlisted members of the flightcrew

f. Demonstrate the qualities of leadership required to conduct advanced base or detached unit operations as officer in charge when such duty is required as part of the unit's mission or method of operation.

12.3.2.3 Initial Qualification. On initial qualification for command of multipiloted rotary-wing aircraft, a pilot will normally be required to progress through the second pilot category before being allowed to qualify for aircraft commander.

12.3.2.4 Requalification

a. After having gained initial qualification, requalification in model or qualification in another model of the same class will not require progression through lower classifications. Such requalification or qualification shall consist of an appropriate checkout including a minimum flight familiarization phase as established by the commanding officer or higher authority and demonstration of the knowledge, proficiency, and capabilities commensurate with desired classification.

b. After having gained initial qualification in a type and class aircraft, on subsequent qualification in another type or class, progression through any of the lower classifications may be required by the qualifying authority if such a course is considered necessary to ensure proper qualification. The same procedure may be required of pilots who report to a command, unit, or activity whose mission includes tasks or employment that demand operational and tactical knowledge or proficiency differing appreciably from that gained on initial qualification.

c. Waivers of minimums may be granted by the appropriate immediate superior in command commensurate with demonstrated ability and only when deemed necessary for the accomplishment of the unit mission.

12.3.2.5 Time Limits. Under normal conditions, a pilot serving in a billet that requires eventual qualification as aircraft commander will gain initial qualification as such within 24 months after reporting to the command. Requalification after lapse of qualification should be attained within 6 months. Air type commanders, using these limits as a guide, shall establish specific maximum time limits for qualification and requalification based on the class aircraft and the unit employment. Amplifying instructions shall prescribe procedures for the disposition of pilots who fail to qualify within the specified time limit.

12.4 NAVAL FLIGHT OFFICERS

12.4.1 Naval Flight Officer Classification

12.4.1.1 Classification. The following classifications are established for NFO crewmembers of aircraft requiring a qualified NFO crewmember to ensure accomplishment of the mission.

a. ASW tactical coordinator (VP, VS)

b. Navigator (VR, VQ)

c. Radar intercept officer (VF)

d. Bombardier/navigator (VA)

e. Combat information center officer/air control officer (VAW)

f. Electronic warfare evaluation officer (VQ)

g. Electronic countermeasures officer (VAQ)

h. Airborne communication officer (VQ)

i. Supporting arms coordinator (airborne) (VMO).

12.4.1.2 Intermediate Classification. The foregoing classifications do not prohibit the use of intermediate classifications that are indicative of a distinctive

(5) Applicable technical orders and notes, COMNAVAIRSYSCOM instructions and technical directives, OPNAV instructions, Federal Aviation Regulations, ICAO procedures, and SCATANA plans

(6) Search and rescue procedures

(7) Communication

(8) Unit mission and tactics

(9) Flight planning

(10) Local and area flight rules

(11) Flight safety.

c. Possess a current instrument rating.

12.2.2.2 Second Pilot. To be qualified as a second pilot an individual shall:

a. Complete the requirements for and possess to an advanced degree the knowledge, level of skill, and capabilities required of a third pilot

b. Have pilot time in class and model as required by the commanding officer or higher authority and demonstrate a high level of skill in the following:

(1) Tactical employment of the aircraft and all associated equipment in all tasks of the unit mission

(2) Operation instrument flying and night tactical operations in model.

c. Possess a current instrument rating

d. Demonstrate ability to direct and train officers and enlisted personnel of the flightcrew

e. Demonstrate thorough knowledge through oral and/or written examination of the following:

(1) Unit mission and tactics

(2) Fleet and type tactical instructions and doctrine

(3) Applicable portions of NWPs, fleet exercise publications (FXPs), JANAPs, Allied communication publications (ACPs), and ATPs

(4) Recognition applicable to unit mission.

f. Satisfactorily complete a NATOPS evaluation in model.

12.2.2.3 Aircraft Commander. To be qualified as an aircraft commander, the NATOPS manual must establish the designation for the particular model and an individual shall:

a. Complete the requirements for and possess to an advanced degree the knowledge, skill, and capabilities of a second pilot

b. Have a minimum of 700 hours total individual pilot time

c. Have a minimum of 100 hours pilot time in class and be NATOPS qualified in model

d. Possess a current instrument rating

e. Demonstrate positive ability to command and train the officers and enlisted of the flightcrew including enforcement of proper air discipline

f. Demonstrate the qualities of leadership and mature judgment required to conduct advanced base or detached unit operations as officer in charge.

12.2.3 General Requirements for Qualification

12.2.3.1 Initial Qualification. On initial qualification for command, a pilot will normally be required to progress through third and second pilot classifications before being allowed to qualify for aircraft commander.

12.2.3.2 Requalification

a. After having gained initial qualification, requalification in model or qualification in another model of the same class will not require progression through lower classifications. Such requalification or qualification shall consist of an appropriate checkout, including a minimum flight-familiarization phase as established by the commanding officer or higher authority, and demonstration of the knowledge, proficiency, and capabilities commensurate with desired classification.

b. After having gained initial qualification in a type and class of aircraft, on subsequent qualification in another type or class, progression through any of the lower classifications may be required by the qualifying authority if such a course is considered necessary to ensure proper qualification. The same procedure may be required of pilots who report to a command, unit, or activity whose mission includes

Navy Department Naval Aviation Evaluation Board.

e. Marine Corps Personnel — Commanding officers will review the flight performance of all personnel assigned to their commands on a quarterly basis. Any personnel whose performance becomes suspect for any reason shall be processed in accordance with paragraph 1162 of MCO P1000.6 (ACTS Manual).

11.5.3 Assignment of Other Than Permanently Designated Aeronautical Personnel. Flight status for technical observers and enlisted personnel assigned as crew or noncrewmembers will be terminated when their assigned duties do not require regular and frequent flights. Commanding officers and administrative seniors shall continually review the requirements for temporary flight orders for enlisted or duty involved flying as a technical observer (DIFTECH) for officer personnel. Personnel shall be ordered to flight duties or recommendations made to competent authority for issuance of flight orders to meet only the essential flight requirements of the command. Whenever the duties assigned to an individual no longer require regular and frequent participation in aerial flights, the commanding officer shall terminate temporary flight orders immediately; and, in the case of officer personnel, recommend to BUPERS or the Commandant of the Marine Corps, or other competent authority, cancellation of orders to DIFTECH. A requirement that formerly resulted in assignment to flight duties and that is no longer current shall not be a basis for continuing a member on temporary flight order or DIFTECH. The assignment to flight duties shall not constitute a reward for accomplishment in a nonflying billet.

11.6 POLICY GOVERNING LOGGING, REPORTING, AND USE OF SIMULATOR TIME

Procedures have been established to inaugurate the formal logging and reporting of aircraft simulator time. Time acquired in approved devices shall be logged on the naval aircraft flight record in the same manner as aircraft flight time. Detailed instructions for logging and reporting simulator time are contained in Chapter 10. Substitution of simulator time to satisfy the minimum proficiency requirements of this instruction is allowable for pilots, NFOs, and air crewmembers. Additionally, an individual record of simulator time shall be maintained in the Aviators Flight Log Book.

11.6.1 Policy Governing Flying Time Substitution. The Navy has examined appropriately configured and instrumented flight simulators to determine the suitability of substituting time accumulated in such simulators for a portion of the total annual minimum flying time requirements. The concept is cost-effective and enhances maintenance of procedural competency.

a. Pilots, NFOs, and air crewmen who have access to any of the authorized flight simulators as approved by CNO (N889F) shall utilize them, as practicable, in maintaining basic aeronautical skills.

b. Aircrew utilizing simulators to facilitate the maintenance of basic aeronautical skills may log simulator time (first pilot/copilot/special crew) to satisfy up to 50 percent of any annual or semiannual flying hour minimums as delineated in paragraph 11.2.3 (except night time requirements).

Note

- Simulator time is intended to assist in satisfying annual or semiannual flight time requirements. It should not be used towards the attainment of specific currency requirements as it is not a substitute for proficiency gained through actual flight in aircraft.

- The substitution of simulator time for air crewmen applies to proficiency requirements only. It does not apply to attainment of minimum flight time for pay purposes as discussed in paragraph 11.4.3.

11.6.2 Policy Governing NATOPS Evaluation Flight Substitution. At the discretion of the squadron or unit commander, the NATOPS evaluation or any portion thereof may be conducted in a simulator that will satisfy the requirements imposed in specific evaluation areas.

11.7 INDIVIDUAL AND COMMAND RESPONSIBILITIES

11.7.1 Supervision. Commanding officers and administrative seniors shall supervise and administer flights under their command to ensure maximum training effectiveness per flight hour. Commands shall verify that BUPERS/CMC orders indicate DIFOPS, DIFCREW, DIFTEM, or DIFDEN status and Medical Service Group of aeronautically designated personnel reporting for duty in a flying status.

11.7.2 Responsibilities. Each individual and respective responsible senior (i.e., commanding officer or administrative senior) is accountable for compliance

CODE	DEFINITION
S	Continuous ACIP (12 to 15 years) — An aeronautically designated officer with from 12 to 15 years aviation service who has met all criteria for code R and completed 72 MOF prior to 12 years aviation service.
T	Continuous ACIP (15 to 18 years) — An aeronautically designated officer with from 15 to 18 years aviation service who has met all critieria for code S and completed 108 MOF prior to 15 years aviation service.

Figure 11-4. Aviation Status Indicator Codes (Sheet 2 of 2)

indicate an aviation officer's ACIP entitlement status. Figure 11-4 lists the ASI codes and their definitions.

11.4 ENLISTED CREWMEMBERS

11.4.1 Naval Air Crewmen

a. Enlisted crewmembers are divided into two general categories: those assigned to permanent flight orders (DIFCREW) and those in a temporary flight status. Those in a temporary flight status are divided into two different categories: personnel under training to become crewmembers (DIFTEM) and noncrewmember special mission personnel such as VIP support, flag support, quality assurance, communication, photo and medical specialists, research and development, etc.

b. Minimum flight requirements for all enlisted crewmembers are set forth in paragraph 11.2.3 and reflect requirements contained in the DOD Pay Manual. Minimum requirements to be met to obtain/maintain aircrew qualifications/designators are covered in Chapter 12 of this instruction and aircraft NATOPS manuals.

c. Aviation ASW operators and those personnel assigned by BUPERS under a distribution NEC of 82XX are considered aeronautically designated enlisted crewmembers. Enlisted noncrewmembers are not considered aeronautically designated.

11.4.2 Marine Corps Crewmembers

a. Enlisted crewmembers are assigned to temporary indefinite flight status for periods of not less than 120 days. Crewmember flight orders are issued to the following personnel:

(1) Personnel who are specifically assigned as regular full-time members of flightcrews, such as aircraft flight engineers, airborne radio operators, and enlisted navigators.

(2) Crewchiefs and assistant crewchiefs.

(3) Instructors whose duties require that they give in-flight instruction as part of a formal school curriculum.

(4) Personnel assigned to airborne command posts.

(5) Communication system operator.

(6) NATOPS evaluators/instructors.

b. Enlisted noncrewmembers are assigned to temporary indefinite or definite flight orders. Noncrewmember flight orders are issued to the following personnel:

(1) Personnel in an approved course that includes instruction in the curriculum.

(2) Personnel assigned duties requiring participation in aerial flight for special purposes that cannot be performed by a person already in receipt of flight orders.

(3) Personnel in an approved course of instruction to qualify as a helicopter aerial gunner/observer.

(4) Personnel assigned as qualified aerial gunners/observers.

(5) Personnel whose duties require participation in aerial flight to perform test, research, or evaluation of airborne technical equipment that cannot be performed by crewmembers.

c. Minimum flight requirements for all Marine enlisted crewmembers are set forth in the DOD Pay Manual. Minimum requirements to be met in order to obtain/maintain aircrew qualifications/designations are covered in Chapter 12 of this instruction and the aircraft NATOPS manuals.

11.4.3 Hazardous Duty Incentive Pay for Enlisted Member/Aeronautically Designated Enlisted and Nondesignated Officers. An enlisted member or nondesignated officer who is required by

determine that individual command DIFOPS/DIFDEN billet requirements are accurately stated. Billet designator change requests are to be submitted in accordance with OPNAVINST 1000.16. Commanding officers will ensure (via ODCR validation) that only officers under DIFOPS orders are assigned to DIFOPS (13X1, 13X2) billets. Particular attention must be given to the assignment of the proper aviation billet indicator (ABI) code (DIFOPS = A, DIFDEN = 0). Commands desiring to assign individuals in a DIFOPS status to DIFDEN billets or vice versa must submit a request to BUPERS in accordance with NMPCINST 7220.1. Failure to comply with these provisions will cause improper crediting of MOFs and could result in possible ACIP recoupment to affected aviators.

11.2.7 Policy Governing Assignment of Inactive Reserve Personnel. Inactive duty Reserve personnel will be assigned DIFOPS when ordered to an active duty flying drill pay billet. Reservists will be assigned in a DIFDEN status when ordered to specifically identified, nonactive duty flying drill pay billets that require aeronautical experience but not the maintenance of basic flying skills. Determination of billet types will be made by the Commander, Naval Reserve Force or CMC, as appropriate.

11.3 AVIATION CAREER INCENTIVE PAY

11.3.1 Definitions

11.3.1.1 Aviation Service. Aviation service is the active or inactive service performed by an officer who holds or is in training leading to an aeronautical rating or designation.

11.3.1.2 Officer Service. Officer service includes all service creditable under Title 37 U.S.C. 205 as a commissioned, warrant, and flight officer.

11.3.1.3 Aviation Service Career. An officer on extended active duty who holds an aeronautical designation shall be considered to be performing aviation service on a career basis, as prescribed in Title 37 U.S.C. 301a, so long as a member of the authorized rated inventory (i.e., commander and below, aeronautically designated) or is serving in pay grade 0-6 or above and is qualified for aviation service.

11.3.2 Policy and Procedures

a. It is DOD policy that officers who are qualified to perform aviation service on a career basis shall receive credit for operational flying duty only during those periods when assigned to designated operational flying assignments. Credit shall not be granted for any period during which a member is under DIFDEN orders. Officers who were past the 12 or 18 years of aviation service points on 1 June 1974 will be presumed to have had sufficient credit to meet the requirements for those points.

b. Operational flying duty time shall be credited in months. So far as fractions of months are concerned, the 15th day of the month is the break-even point for crediting or not crediting a month. Detachment from operational flying duty after the 15th day of any month or assignment to operational flying duty on or before the 15th day of any month entitles a member to credit for the entire month. The date a member signs out or otherwise vacates an assignment will be used as the date of detachment. The next day will be used as the date of assignment.

c. The number of years of aviation service for computing the appropriate rate of pay is computed beginning with the effective date of the initial order to perform aviation service as an officer. Within the Department of the Navy, the "effective date of the initial order to perform aviation service," hereafter referred to as the ASED, is the day, month, and year an individual first reports, on competent orders, to the aviation facility having aircraft in which members will receive their flight training leading directly to the award of an aeronautical designation and continues to accumulate from that date without exception as long as their flight designation remains in effect.

d. Officers medically incapacitated will be considered qualified for aviation service unless such incapacitation continues for more than 6 months. Disqualification for medical incapacity will be effected on the first day following a period of 180 days that commences on the date of incapacitation. Officers disqualified for medical reasons will not be requalified for aviation service until the condition resulting in incapacitation is reevaluated and the officer is certified as medically qualified for operational flying duty by appropriate medical authority. Aviation career incentive pay and operational flying duty credit may not be authorized for any period during which an officer is medically disqualified for aviation service.

11.3.3 Aviation Career Incentive Pay for Rated Members (Rated Members Include Aeronautically Designated Naval Aviators and Naval Flight Officers)

11.3.3.1 Entitlement Status. Aviation status indicators (ASIs) are one-character codes that are used in various documents such as JUMPS and ODCRs to

Type Qualification	Initial Qualification Required	Renewal Interval	Requirements By Flight Status				Waiver Authority
			DIFOPS			DIFDEN	
			1301/1321/ 1511	1302/1322/ 1512/2102/ 2302	USMC	1300/1320/ 1510/USMC	
NATOPS Qualification	Yes (1)	Annually	Yes	No	Yes	No	None
Instrument Qualification	Yes (1)	Annually	Yes	No (1)	Yes	No	CNO/CMC
Annual Flight Hour Minimums	No	Annually	48 Hrs.	48 Hrs.	48 Hrs.	No	CNO/CMC/ COMNAVRESFOR/ CG FOURTH MAW
Physical Examination	Yes	Annually	Yes	Yes	Yes	Yes	BUMED/BUPERS/ CMC
Physiology NAPTP	Yes	4 Years (2, 3)	Yes	Yes	Yes	No (6)	TYCOMS
Emergency Egress Training	Yes (4)	Annually (5)	Yes	Yes	Yes	No (6)	TYCOMS
Water Survival NAWSTP	Yes	4 Years (3)	Yes	Yes	Yes	No (6)	TYCOMS

NOTES:

1. Required only for those Flight Surgeons holding dual qualification as Naval Aviator/Flight Surgeon and for NFO's.
2. Low pressure refresher training not required in rotary-wing aircraft unless required by special mission.
3. Refer to paragraph **8.4.2.**
4. Dynamic ejection seat training required prior to flight in aircraft equipped with ejection seat.
5. Static training required prior to flight in different type ejection seat. **(Refer to paragraph 8.4.1).**
6. Required if in flying status with waiver.

Figure 11-2. Aviation Qualification/Currency Requirements Summary (NFO/Flight Surgeon)

is required to obtain annual/semiannual flight minimums for the months of October through June. An aviator who detaches from DIFDEN status and joins a DIFOPS command during April is required to obtain annual/semiannual flight minimums from May through September.)

b. Minimum annual flight time requirements apply only when assigned to permanent duty stations on DIFOPS orders. They do not apply while en route on permanent change of station (PCS) orders or on TAD assignments in excess of 3 weeks away from the parent command area where flight time activity is not available as determined by the individual's commanding officer.

c. Marine NAs/NFOs undergoing replacement aircrew (RAC)/refresher training as outlined by the current edition of MCO P3500.14, T&R Manual Vol. I, shall not be accountable for meeting semiannual/annual minimums as outlined in this instruction until they have completed combat capable training as defined in MCO P3500.14 (latest version) or are transferred from their training squadron/elements.

11.2.5 Aviation Qualification/Currency Requirements Summary. A summary of aviation qualification/currency requirements is shown in Figure 11-1 for naval aviators, Figure 11-2 for NFOs/flight surgeons, and Figure 11-3 for naval air crewmen.

11.2.6 Flying Activity Denied

a. Flying activity is denied when ordered under DIFDEN status.

b. DIFDEN is duty in a flying status not involving flying. Officers so designated are prohibited from performing operational crewmember duties except as modified in the following paragraphs. DIFDEN personnel will continue to receive continuous ACIP if entitled by the Aviation Career Incentive Act of 1974.

11.2.6.1 Flying by Individuals in DIFDEN Status. Aeronautically designated officers in DIFDEN status may, on occasion, be required to perform operational flying on a temporary basis to accomplish specific tasks (for example, participation in flying exercises or test programs or to gain familiarity with selected operational weapon systems and procedures). Under such circumstances, the following will apply:

a. Approval is required for individuals to perform aircrew duties in a DIFDEN status. Waiver requests must be forwarded via chain of command to CNO (N889) or CMC (Code ASM), as appropriate. DIFDEN waiver request packages shall include endorsements by the applicant's type commander and the aircraft's type commander. Flight waivers may be granted for a single flight, a series of flights involving an exercise or test program, or for gaining familiarity with selected operational weapons systems and procedures. Marine Corps personnel shall refer to MCO 3710.4 for guidance on the issuance of waivers. Flight waivers may also be granted on a tour basis where an aviator's flight experience may be utilized periodically during the duty assignment. For personnel receiving flight waivers, minimum annual flight time requirements are not prescribed; however, appropriate NATOPS and other training qualifications apply for:

(1) Officers in pay grade 0-6 and above, a DIFDEN waiver is not required to perform temporary aircrew duties on flights involving exercises, test programs, or weapon system familiarity provided the individual's participation in such flights is required in the performance of assigned duties and responsibilities.

(2) Personnel whose DIFDEN flight activity exceeds approximately five flights per month on a regular basis should consider requesting a DIFDEN waiver or conversion of the billet to DIFOPS status, as appropriate.

b. Commanders must approve the use of command aircraft resources for personnel outside their command. Such approval must be included in the appropriate endorsement on initial submission of the waiver request.

c. Flights in DIFDEN status do not constitute operational flying duty for entitlement purposes or accumulation of operational flying months.

11.2.6.2 Policy Governing Management of DIFDEN Personnel. Competent authority will not be denied the services of aviation personnel assigned combat missions. All aeronautically designated personnel on DIFDEN orders serving under circumstances that qualify them for hostile fire pay, regardless of assigned billet, are permitted to perform mission or mission support flight duties if otherwise qualified to fly.

11.2.6.3 DIFOPS/DIFDEN Billet Review/Assignment (USN Only). To ensure that manpower authorizations reflect current DIFOPS billet requirements, commanders are to periodically review operational flight taskings and aircraft assignments to

of flight duties as determined by the Secretary of the Navy and flying performed by members in training leading to award of an aeronautical designation (rating). Operational flying positions are identified by specific billet code identifiers, either code 1 or code 2, and require the billet incumbent possess DIFOPS orders. All other billets are considered other than operational flying billets. Marine Corps operational flying assignments are determined by CMC (Code ASM).

b. The following definitions apply:

(1) DIFOPS — Duty in a flying status involving operational or training flights — Officers so ordered by BUPERS or CMC are required to maintain basic flying skills in the performance of their assigned duties and must be assigned to a designated operational flying billet or command. Those officers are considered in DIFOPS status and will accumulate months operational flying (MOF) time towards meeting ACIP "gate" requirements.

(2) Code 1 — Operational Flying — This category billet (Navy designator codes 1301, 1311, 1321, 1511) is derived from the application of crew ratios multiplied against unit equipment aircraft. It is a billet in which an aeronautically designated officer is required to participate as a crewmember in the operation of an aircraft or its weapon systems in support of specific aviation operational missions. Such operational missions include but are not limited to tactical air, ASW, SAR, fleet support, training, test and evaluation, and logistic or staff support.

(3) Code 2 — Operational Flying — This category billet (Navy designator codes 1302, 1312, 1322, 1512, 1812, 2102, 2302) requires an aeronautically designated officer to fly frequently and regularly in the performance of his/her assigned duties, but the requirement is not derived from the application of crew ratios against unit equipment aircraft. Designated billets involve crewmember flight duties that vary from complete aircraft/weapon system utilization to those less demanding in airborne duties and frequency of flight. Such operational duties include but are not limited to pertinent flight functions involving the exercise of command and control of aircraft, mission support, flight safety, aircrew evaluation, operational readiness, maintenance programs, and weapon test evaluation.

(4) Preceding codes 1 and 2 are not applicable to the Marine Corps.

11.2.1 Flight Surgeon Flying Policy

a. For purposes of this section the term "flight surgeon" applies equally to flight surgeons, naval aerospace experimental psychologists, and naval aerospace physiologists.

b. A flight surgeon who possesses an additional pilot or naval flight officer designation and is assigned to a flight surgeon billet (2102/2302) will fly only as a flight surgeon. Exceptions will require individual authorization by CNO (N889) with complete justification forwarded through and approved by BUMED.

c. A flight surgeon is only authorized to fly operationally when ordered DIFOPS, when assigned to a 2102/2302 billet, or when enrolled in aerospace medicine residency or advanced training programs in aerospace/preventive medicine.

d. A flight surgeon who satisfies the requirements of preceding paragraphs a and c may fly in actual control of any dual-controlled naval aircraft, subject to the same limitations as a pilot not qualified in model, if a NATOPS-qualified pilot in command is occupying the other cockpit seat. A flight surgeon who possesses an additional pilot designation and is assigned to a flight surgeon billet may fly in control of any dual-controlled naval aircraft in all phases of flight if a NATOPS-qualified pilot in command is occupying the other cockpit seat. This privilege may be authorized by local commanders on the basis of the individual flight surgeon's demonstrated interest and ability.

e. The following definitions apply:

(1) Designator Billet Code 2102 — This is an operational flying billet for a designated flight surgeon (NOBC 0045) and requires the incumbent to fly frequently and regularly in the performance of assigned duties.

(2) Designator Billet Code 2302 — This is an operational flying billet for a designated naval aerospace experimental psychologist (NOBC 0852) or an aerospace physiologist (NOBC 0849) and requires incumbents to fly frequently and regularly in the performance of assigned duties.

mishap investigation reports and endorsements (including the Naval Safety Center endorsement) as a basis for the entries. Such use would be in violation of the privileged nature of this information. In the case of substantiated flight violations, jacket entries reflect an administrative finding and such entries shall not be considered punitive or as possessing any judicial character. Entries of mishaps and violations shall be signed by an officer authorized to sign the individual report of fitness or of enlisted evaluation.

a. Summary record.

(1) This is a quantitative record of all substantiated violations of flying regulations and of all aircraft mishaps for which the individual has been assigned responsibility in any degree. Only those aircraft mishaps in which aircrew error was a factor shall be entered in the mishap column of the mishap and the flight rule violation records. Entries of mishaps or violations shall be authenticated by the commanding officer.

(2) Negative reports are required; comply by entering "0" (zero). They shall be authenticated by the commanding officer or an authorized deputy.

b. Mishap record. The mishap record shall include all flight mishaps and violations.

(1) Each substantiated violation of flying regulations or an aircraft mishap in which the reporting custodian considers the action of flight personnel to be a cause factor shall be entered.

(2) Entries of mishaps and violations shall be signed by an officer authorized to sign the individual report of fitness or report of enlisted evaluation.

FLIGHT CLOTHING RECORD

Action code: O—Original Issue; R—Replacement Issue; M—Returned or Surveyed out; not replaced.

ITEM	DATE	ACTION CODE	ACTION BY
BOOTS, flying			
CAP, summer			
COMPASS, wrist			
COMPUTER, navigation			
GLASSES, sun			
GLOVES summer			
GOGGLES, assembly kit			

Figure 10-15. Flight Clothing Record (OPNAV 3760/31)

10.6 NATOPS FLIGHT PERSONNEL TRAINING AND QUALIFICATION JACKET, OPNAV 3760/32

The NATOPS flight personnel training and qualification jacket, OPNAV 3760/32, shall be maintained in accordance with Appendix A.

10.7 MONTHLY INDIVIDUAL FLIGHT ACTIVITY REPORT (NAVFLIRS-3)

The NAVFLIRS-3 details, by individual, specific flight activity that was performed during the reporting period (submitted on naval aircraft flight records). In addition, a summarization by aircraft bureau number of flight times (FPT, CPT, and SCT), including instrument (ACT and SIM) and night times, and a summarization of weapons proficiency, miscellaneous, and FYTD summary is also provided.

10.8 INDIVIDUAL FLIGHT ACTIVITY REPORTING SYSTEM

10.8.1 Background. The IFARS data bank is an automated data system that is the primary source of individual flight data, including those flights flown in authorized simulators. The reporting vehicle for IFARS data is the naval aircraft flight record (see paragraph 10.3). The Naval Safety Center is the collection and maintenance activity for the IFARS data bank.

10.8.2 Purpose. The IFARS data bank provides valuable exposure data for flight safety analysis and also provides data for such other users as budget justification,

SUMMARY OF PILOT TIME BY MONTH, MODEL, ETC.

(To summarize flight data in this log and last months of previous log; enter year and item (e. g. model) on lines; transfer data from log)

YEAR AND ITEM	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN-MAR	APR-JUN	JUL-SEP	OCT-DEC	YEAR TOTAL

Figure 10-13. Summary of Pilot Time (OPNAV 3760/31)

of the page following the last month during which flights were made) the statement "No flights (month and year) through (month and year)," or equivalent. Simulator flights shall be logged as regular flights in the Aviators Flight Log Book starting from the rear of the month-by-month section of the log book and working forward. More than 1 month's entries may be entered per page.

b. Always show the full model designation (A-7B, not A-7) and full aircraft bureau number. Whenever the reporting custodian of the aircraft is different from the activity to which the pilot is attached or from the activity whose aircraft the pilot normally flies, show the custodian's identity in the columns for aircraft and serial number or remarks column.

c. Entries to "KIND OF FLIGHT" (TMR code) column shall always be the code entered on the flight record for the individual.

d. "A/C COMDR."column may also be utilized to record either FPT, CPT, or SCT.

e. Final approaches are entered into the Aviators Flight Log Book as precision or nonprecision, utilizing the approach codes described in Appendix F.

f. The notation of pilot time report printed along the right-hand margin no longer applies.

g. Upon detachment and at the end of each month, the pilot shall sign all pages on which entries have been made. The commanding officer or an authorized deputy shall sign the page of the

10.5.2.4 Flight Record Summary, Total and for 12 Months Preceding This Log (Figure 10-12)

a. This page is to be filled in upon opening this log book and no entry should be made to it thereafter.

b. In the first column, show the total flying hours accumulated to date from the date military flying began for those items listed for which the record is available or a good estimate can be made; indicate which are estimates; leave unknowns blank.

c. For month columns, find the column for the month corresponding to the last month covered by the previous log book, enter the proper year of that month in the column heading, draw a heavy vertical line all the way down the right side of the column, and fill out the column. Then go to the next column to the left and, from data in the previous log book on the next to the last month covered by it, fill out that column. Proceed to the left in that manner until the January column is completed; then proceed to the December column and work to the left until all columns are completed.

d. Wherever appropriate, pen and ink changes are authorized.

10.5.2.5 Summary of Pilot Time by Month, Model, Etc. (Figure 10-13)

a. This form is provided for monthly, quarterly, or annual summaries of data recorded in the flight-by-flight record section of this log book plus the same in the previous log book for those months back to the beginning of the year for which this log book

PERSONAL CHANGES

(As the Pilot may elect to record)

DATE	CHANGE

Figure 10-10. Personal Changes (OPNAV Form 3760/31)

SUMMARY OF TOTAL FLIGHT RECORD

(Accumulated from beginning of military flying to date of opening this log book, for model, combine all configurations, e.g. F-8, not F-8A, F-8B, etc.)

AIRCRAFT MODEL	PILOT-TIME	AIRCRAFT MODEL	PILOT-TIME	A/C MODEL	A/C CDR

Figure 10-11. Summary of Total Flight Record (OPNAV Form 3760/31)

10.4.3.3 Starting Files. Master flight files are started initially by a new activity.

10.4.3.4 Filing Procedures. When the activity's information requirements of the naval aircraft flight records are satisfied, this form shall be chronologically filed by date and time of departure, using "prong fasteners" or similar devices in a binder as compactly and securely as possible (i.e., two stacks per binder, if feasible). Though desirable, the requirement for chronology as to departure time is not absolute; reasonable variance is acceptable. The forms shall be logically arranged to permit easy access if flight data must be extracted at a later time. Each binder should contain records in one or more whole-month increments, be approximately 2 to 3 inches in thickness, and contain a transmittal letter. Each binder shall be externally labeled in indelible hand printing, clearly identifying the submitting activity/detachment, its location, and the monthly interval covered. For example, the label may read:

MASTER FLIGHT FILE
VA-115
PERIOD 10/1/86 through 11/30/86
NAS WHIDBEY ISLAND (10/1-11/15)
USS ENTERPRISE (11/16-11/30)

10.4.3.5 Missing Data. In some cases, the duration and locale of flights performed in relation to the location of the master flight files will be such that the files cannot be kept current if exact date/time chronology is to be followed. In such isolated cases and in view of the annual retention period of the files, activities shall file all of the flight data that is available. When it is time to forward the annual block of files to the record center, those data that are missing shall be specified in the respective letters of transmittal with an indication, if possible, of what future files will contain the missing data. Each reporting custodian is responsible for the continuity and consistency of the master flight files.

10.4.3.6 Classification. Completed master flight files will ordinarily be unclassified but classification may be assigned as warranted by the data. Activities should not include in the files any data that warrant a classification higher than Confidential unless the information is an important record not suitably provided for by other media.

10.4.4 Master Flight File Certification. Each master flight file binder shall contain a letter of transmittal attached within and on top of the file contents and signed by the activity CO, OIC, or an officer designated in writing by the CO to do so. The following items shall be addressed:

a. Certification that attests to the accuracy, clarity, and completeness of the entries contained there for the time interval noted on the binder cover. Such certification, among other things, establishes a record of flights made by flight personnel who are in receipt of ACIP or hazardous duty incentive pay (HDIP).

b. A statement that items of historical interest (i.e., "first," "records," unique achievements, etc.) have been properly recorded for inclusion in the activity history submission in accordance with OPNAVINST 5750.12.

c. An itemization of unusual events that may lead to subsequent litigation or adverse public relations (i.e., inadvertent bomb drops, canopy "blow-offs," etc.) shall be included identifying the flight during which such an event occurred. An objective (noninterpretive, nonsubjective) description of the event by any person aboard (especially if not listed on the naval aircraft flight record) who is a party to or observer of the event shall also be included.

d. Mishaps or combat incidents shall be noted to the extent of identifying the mishap/incident report containing the relevant information. Identifying the aircraft that was lost, missing, or damaged, and personnel aboard who were killed, missing, or wounded is also required.

e. Missing data shall be identified with an indication, if possible, of what future files will contain the information.

f. Identification of any nonstandard abbreviations, codes, or the like used on the naval aircraft flight record is required.

g. The time interval, within the period covered by the file, during which the activity was in an official combat status shall be specified.

10.4.5 Storage/Forwarding of Master Flight Files. Master flight file binders will be accumulated and stored in chronological sequence in annual calendar year record blocks. The prior calendar year block shall be properly classified and identified by activity and year and returned to the Washington National Record Center following transfer procedures outlined in SECNAVINST 5212.5 as follows: when the activity is decommissioned and by 31 August of each year.

single, locally controlled collection and correction system and to implement a standard data collection source document (the naval aircraft flight record) throughout the Navy and Marine Corps. It will establish a single central data base containing all naval flight data.

(3) This information may be provided to committees authorized by Congress to investigate certain phases of the naval aviation program. The "blanket routine uses" that appear at the beginning of the Department of the Navy's compilation also apply to this system.

(4) Disclosure of this information is voluntary. However, failure to disclose this information could result in the flight data not getting recorded on the 3M system and could result in the loss of flight pay.

10.3.7 Personnel Exchange Program/Naval Plant Representative Office Personnel/Any Aeronautically Designated Personnel Assigned to an Activity Where DSF Support Is Not Available

a. A completed naval aircraft flight record is required for each designated aviator who participates as a crewmember during the flight of military aircraft including foreign governments.

b. Crewmembers flying naval aircraft assigned to an embassy or to an activity where DSF support is not available shall complete the naval aircraft flight record as outlined in paragraphs 10.3.2 through 10.3.6. When the flight involves an aircraft for which no type equipment code or organization code has been assigned, contact COMNAVSAFECEN, Code 52, for assistance. COMNAVSAFECEN will request assignment of new codes as specified in Appendixes K and Q of OPNAVINST 4790.2

c. Forward completed naval aircraft flight records to COMNAVSAFECEN, Code 52, for processing. Error reports will be returned to the aviator for corrections.

d. A monthly individual flight activity report (MIFAR) (NAVFLIRS-3), Figure 10-8, will be produced by the NAVFLIRS system and forwarded to the aviator by COMNAVSAFECEN. The MIFAR contains all individual activity for that month excluding those records appearing on the error reports. The lower half of the MIFAR contains a weapon proficiency summary, miscellaneous data section, and a FYTD summary indicating what is on record in the NAVFLIRS system. Missing data can be added to the FYTD summary by forwarding a completed naval aircraft flight record to COMNAVSAFECEN within 3 months from the date of the MIFAR.

e. Naval flight surgeons, naval aerospace physiologists, and naval aerospace experimental psychologists are often ordered to DIFOPS at nonaviation activities (hospitals, etc.) These personnel are additionally assigned (under "Special Instructions" section of BUPERS orders) by BUPERS (PERS-4415) to aviation activities for flight purposes. Assigned aviation activities shall assist in obtaining minimum annual flight time requirements and provide administrative support for documentation of flight time.

10.3.8 Civilian Crewmembers Flying Naval Aircraft (Active)

a. Civilian crewmembers gained to the IMR must use an equivalent military paygrade in block 48 of RECTYP 7D.

b. Civilians functioning as crewmembers shall follow the procedures outlined in paragraphs 10.3.2 through 10.3.6. Civilian crewmembers shall insert "CIV" in the first training code field in the aircrew data section (RECTYP 7C).

10.3.9 Naval Aviation Depots (NAVAVNDEPOTs). NAVAVNDEPOTs shall complete naval aircraft flight records as outlined in paragraphs 10.3.2 through 10.3.6 for flights involving aircraft where a NAVAVNDEPOT is designated as the reporting custodian. When a NAVAVNDEPOT has physical custody, but not reporting custody of an aircraft being flown, block 21 of RECTYP 7B (aircraft data) must be the ORG of the reporting custodian and block 10 of RECTYP 7C (aircrew data) must be E.

10.4 MASTER FLIGHT FILES

The master flight files shall be the only official flight record of naval aircraft and shall be maintained in accordance with this instruction by every reporting custodian of naval aircraft as defined in OPNAVINST 5442.2.

10.4.1 Submission Requirements. Submission of simulator copies to the National Records Center is not required. Each activity using simulators requiring submission of the naval aircraft flight record may retain copy three for local record purposes.

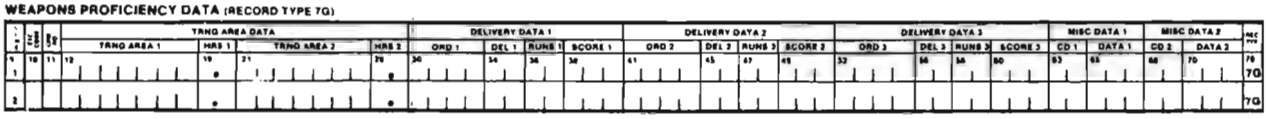

Figure 10-6. Weapons Proficiency Data Section

from left to right and position one must be alpha when filled in. Complete MOA designations may exceed seven characters/digits. In such cases, enter the first seven letters of the MOA name. If a subdivision is involved (i.e., north, south, east, or west; a, b, c, etc.; high or low) then enter those in the last spaces, cutting short the MOA name if necessary. For example, Pecos east high MOA would be entered: PECOSEH; Randolph 2a would be entered as RANDO2A. Regional airspace coordinators should publish standard training area codes/abbreviations for use in the NAVFLIRS weapons proficiency data section.

(4) Blocks 19 and 28. TRAINING AREA HOURS 1/2 (TNGHR1/2): Enter the time, in hours and tenths, dedicated to TNGAR1/2. Their sum must not exceed total flight time.

(5) Blocks 30, 41, and 52. ORDNANCE 1/2/3 (ORD1/2/3): Enter the ordnance code (see Appendix H). For ordnance codes not listed in Appendix H, refer to NAVAIR 11-1-116B (Navy Ammunition Logistic Codes).

(6) Blocks 34, 45, and 56. DELIVERY 1/2/3 (DEL1/2/3): Enter the delivery data code. Position one must be alpha (see Appendix H).

(7) Blocks 36, 47, and 58. RUNS 1/2/3 (RUNS1/2/3): Enter the total number of runs associated with the respective delivery code.

(8) Blocks 38, 49, and 60. SCORE 1/2/3 (SCORE1/2/3): Enter the score awarded if applicable for DEL1/2/3 as follows: The aviator will manually calculate the score by dividing the number of runs into the sum of the target-miss distance in feet. A score in excess of 999 feet can be entered using a K in the first position (i.e., K11 equals 1,100 feet, K26 equals 2,600 feet).

(9) Blocks 63 and 68. MISCELLANEOUS DATA CODE 1/2 (CD1/2): Enter the miscellaneous data code if applicable (see Appendix H).

(10) Blocks 65 and 70. MISCELLANEOUS DATA 1/2 (DATA1/2): Enter the number of occurrences or time in hours and tenths (from right to left) for the data described in CD1/2.

Note

The data of miscellaneous codes with a first position of N, R, or 1 will be treated as hours and tenths with an implied decimal between positions two and three. Data for all other miscellaneous codes will be treated as whole numbers.

10.3.6 Personnel Data

a. Personnel data, RECTYPE 7D, is used to update the individual master roster (IMR) (NAVFLIRS-00). This RECTYP is submitted whenever a crewmember is gained, detached, or a revision to the IMR is required. RECTYP 7D is composed of data fields from the aircraft, aircrew, logistics, and name/grade/local use sections. Figure 10-7 displays the RECTYP 7D data fields. RECTYP 7D entries shall be retained in a separate file until the data submitted can be verified on the IMR and then disposed of at the activity's discretion.

(1) AIRCRAFT DATA SECTION, Block 17, ASSIGNED SYLLABUS (TEC): Mandatory entry for Marine Corps only. Enter the four-character numeric code identifying the syllabus assigned to the crewmember (see Appendix J).

(2) AIRCRAFT DATA SECTION, Block 21, ORGANIZATION CODE (ORG): Enter the three-character AV-3M organization code the crewmember is assigned. Refer to NAMSO report 4790.A7065-01.

(3) AIRCREW DATA SECTION, Block 10, EXCEPTION CODE (EXCD): Enter G, L, or R, as appropriate (see Appendix F).

(4) AIRCREW DATA SECTION, Block 11, FIRST INITIAL (FSTINT): Enter the first initial of the crewmember requiring the transaction.

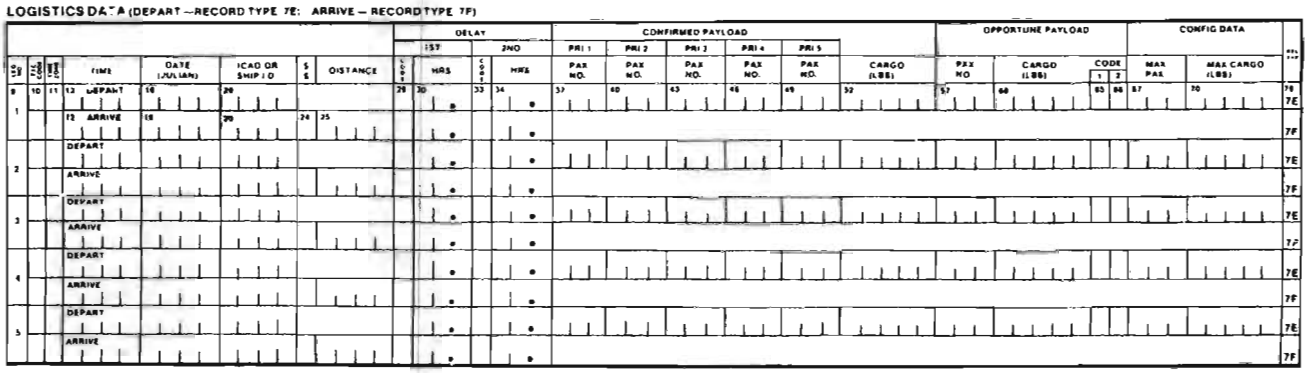

Figure 10-5. Logistics Data Section

The appropriate alphanumeric code shall be entered if the recorded flight or simulator event attains or renews a qualification listed in the appropriate T&R manual. If the flight/event does not attain/renew a qualification, T&R manual codes shall not be recorded. Navy squadrons may specify and enter additional alphanumeric codes to capture training or cyclic events as long as they do not conflict with codes established by the appropriate T&R manual.

- Marine squadrons use training codes as daily input to each squadron aviation training data base to update individual and activity flight training progress, to aid in scheduling daily flight training, and to forecast monthly, quarterly, and annual flight time requirements. The Marine Corps T&R manual contains the appropriate syllabus training codes for each crewmember position by model aircraft. Marine entries must be numeric.

- The CANDE and NALCOMIS OMA programs allow for the entry of up to 10 training codes for the automated NAVFLIR. The CANDE/NALCOMIS OMA-produced, hard-copy facsimile looks similar to the current NAVFLIR OPNAV 3710/4 form except that it will display the additional training code entries at the bottom of the printed facsimile.

10.3.4 Logistics Data Section

a. Logistics Data (blocks 29 to 70) shall be recorded for every flight that involves the movement of passengers/cargo, scheduled or unscheduled, in any type aircraft. Blocks 12 to 20 are mandatory entries for all flights.

b. Complete the data blocks in the logistics data sections, RECTYP 7E and 7F (Figure 10-5):

(1) Block 10. EXCEPTION CODE (EXCD): No exception codes are permitted for the initial entry. This block is used for corrections and deletions only.

(2) Block 11. TIME ZONE (TMZONE): Enter the time zone on page one, leg one only. The same time zone shall be used for all legs (see Appendix G). The time zone remains unchanged, even during daylight savings time.

(3) Block 12. TIME DEPART/ARRIVE (TIMDEP-TIMARR): Enter the departure and arrival times, consistent with the time zone in block 11.

(4) Block 16. DATE DEPART/ARRIVE (DTEDEP-DTEARR): Enter the four-character Julian date (YDDD) for departure and arrival.

Note

Record flight information for flights overlapping into a new day under month and date the flight originated.

(5) Block 20. ICAO DEPART/ARRIVE (ICAODP-ICAOAR): Enter the four-character ICAO code for departure and arrival. Obtain land-based ICAO codes from the current FLIP for the geographical area. For ship ID codes, use a four-character alphanumeric code identifying the ship (e.g., D963 for DD 963 (USS Spruance), CV68 for CV 68 (USS Nimitz), or

r. NUMBER OF HOISTS: Enter the total number of hoists accomplished during the flight. The data are for maintenance control and are not processed at the DSF.

10.3.3 Aircrew Data Section. The aircrew data section is designed for recording necessary information pertaining only to those individuals functioning as crewmembers during the flight. Complete the data blocks in the aircrew data section, RECTYP 7C (Figure 10-4).

a. Block 10. EXCEPTION CODE (EXCD): Enter the appropriate exception code if required. Exception code E, S, or T is permitted in this block (see Appendix F).

b. Block 11. FIRST INITIAL (FSTINT): Enter the crewmember's first initial.

c. Block 12. LAST INITIAL (LSTINT): Enter the first letter of the last name in the space provided. Space for the individual's name is provided as a convenience; only the initials shall be entered (keypunched) as part of the flight data by the DSF.

d. Block 13. SOCIAL SECURITY NUMBER (SSN): Enter the social security number for each crewmember (allow no dashes).

e. Block 22. SPECIAL QUALIFICATION (SPQUAL): Enter the special qualification code for each crewmember (see Appendix F).

Note

SPQUAL identifies the crewmember function during the flight.

f. Block 23. SERVICE CODE (SVC): Enter the service code for each crewmember (see Appendix F).

g. Block 24. FIRST PILOT TIME (FPT): Enter the hours and tenths logged as first pilot.

Note

First pilot, copilot, and special crew times are defined in Chapter 1.

h. Block 27. COPILOT TIME (CPT): Enter the hours and tenths logged as copilot.

i. Block 30. SPECIAL CREW TIME (SCT): Enter the hours and tenths logged as special crew.

Note

The sum of FPT hours for entire document must equal the sum of HRS1, HRS2, and HRS3. The sum of hours in FPT, CPT, and SCT for each additional crewmember may equal but must not exceed the sum of HRS1, HRS2, and HRS3.

j. Block 33. ACTUAL INSTRUMENT TIME (ACT): Enter the hours and tenths logged as actual in accordance with Chapter 1.

k. Block 36. SIMULATED INSTRUMENT TIME (SIM): Enter the hours and tenths logged as simulated in accordance with Chapter 1. If an actual or simulated approach is logged, actual or simulated instrument time must be logged.

l. Block 39. NIGHT TIME (NIGHT): Enter the hours and tenths logged as night time in accordance with Chapter 1.

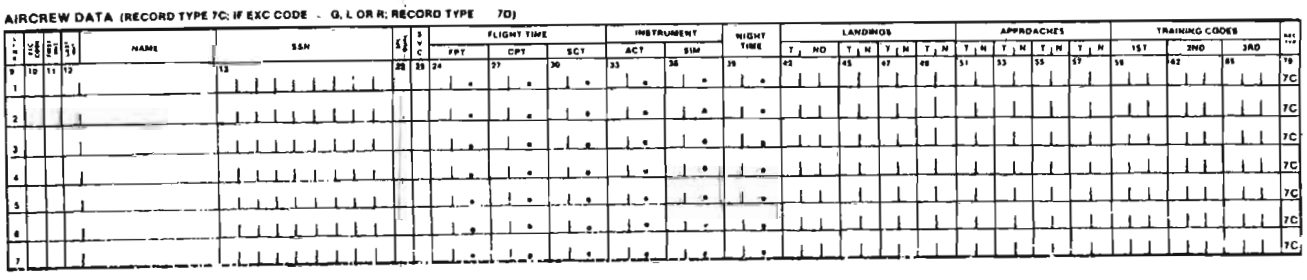

Figure 10-4. Aircrew Data Section

Note

- Logging night time or aircraft commander time is not authorized when reporting simulator time.
- Instructor time may be reported.

10.3.1.2 Approved Simulators. Approved simulators for logging pilot and special crew time are listed in Appendix K and are based on the demonstrated ability of the devices to provide mission and weapon system training. Additionally, it is recognized that other military services, industry, and foreign governments operate very capable military aircraft simulators that are not listed here. Generic type equipment codes, listed in Appendix K, have been assigned to enable Navy aircrews to credit time gained in those devices using the naval aircraft flight record. However, the person signing the flight record shall ensure that the following criteria are met:

a. The device reasonably simulates a particular military aircraft, including cockpit layout, instrumentation, performance, and handling. The model being simulated shall be recorded in the remarks block.

b. Instrumentation and displays sufficient to conduct the desired military training mission (e.g., instrument approach, air intercept, weapon delivery, etc.) are provided, and are appropriate to the type of flight time to be logged (pilot or special crew time).

c. The device cockpit is isolated from outside distraction.

10.3.2 Aircraft Data Section. Complete the data blocks in aircraft data section, RECTYP 7B (Figure 10-3):

a. SIDE NO. Enter the side number of the aircraft. Those data will not be processed at the DSF.

b. Block 10. EXCEPTION CODE (EXCD): Enter the appropriate exception code if required. Exception code X documents the cancellation of a flight and is used only in the aircraft data section (see Appendix F).

c. Block 11. BUREAU/SERIAL NO. (BUNO/SER): Enter the bureau number of the aircraft or the serial number of the simulator. Right justify if less than six characters.

d. Block 17. TYPE EQUIPMENT CODE (TEC): Enter the four-character AV-3M type equipment code assigned to the aircraft or simulator. Refer to NAMSO report 4790.A7210-01.

e. Block 21. ORGANIZATION CODE (ORG): Enter the three-character AV-3M organization code for the aircraft reporting custodian or "ZEZ" for simulators. Refer to NAMSO report 4790.A7065-01.

f. Block 24. MISSION 1 (MSN1): Enter the three-character TMR code from Appendix D that most accurately describes the primary mission for the flight/simulator event or its reason for being canceled or aborted. Canceled or aborted flights must use a general purpose code (GPC) of N (maintenance) or O (operations) in the second position, as applicable.

Note

A canceled flight is one for which no flight time was obtained.

g. Block 27. HOURS 1 (HRS1): Enter the hours and tenths dedicated to performance of MSN1. The block will be blank when documenting a cancellation.

h. Block 30. MISSION 2 (MSN2): Enter the mission code from Appendix D that most accurately describes the secondary mission if applicable. The mission may not necessarily be assigned at takeoff.

Note

An aborted flight is one for which flight time is obtained but requires termination of the flight. If that occurs, MSN1 or MSN2 will indicate the mission that was in progress when the abort decision was made; and MSN2 or MSN3 (as applicable) will indicate the reason for the abort.

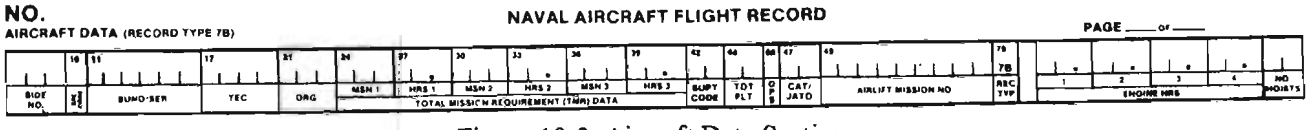

Figure 10-3. Aircraft Data Section

(2) No maintenance or servicing is performed at intermediate stops other than the addition of fuel, oil, or oxygen.

(3) Ops code (i.e., shipboard or shore operations) remains the same.

g. The upper left corner of the naval aircraft flight record contains a preprinted alphanumeric number that uniquely identifies each document and is required for computer processing. A naval aircraft flight record with this number obscured will be rejected by the DSF.

Note

For activities using the CANDE or NALCOMIS OMA program, the NAVFLIRS document number will be automatically generated and assigned to the individual flight record.

h. The "PAGE___OF___" will be used when an additional naval aircraft flight record is required to supplement the documentation of multiple entry data fields cited above. The maximum allowable number of supplemental pages is five. The document numbers of the supplemental pages shall be obliterated and the document number assigned to page one shall be handscribed legibly on each supplemental page.

i. Supplemental naval aircraft flight records may be attached to page one to provide additional space to document the following data elements:

(1) Crewmember names

(2) Additional flight legs and their associated logistic records

(3) Weapons proficiency.

j. It is the responsibility of the aircraft or simulator reporting custodian to ensure that naval aircraft flight records are available.

k. Exception codes (Appendix F) are provided for entries on the naval aircraft flight record that require processing for other than a routine flight such as the following:

(1) Gaining or losing crewmembers to the squadron data base.

(2) Correcting, deleting, or revising previously submitted data.

(3) Documenting CVW staff member flight time.

(4) Documenting simulator time. Simulator time only refers to approved simulators capable of logging flight time.

(5) Documenting canceled flights.

(6) Documenting flights when the crewmember and the aircraft are assigned to different organizations.

Note

- Aircrew shall be placed on an appropriate organization's individual master roster (IMR). Organizations shall submit a RECTYP 7D Gain (exception code G) when aircrew report to a new organization and a RECTYP 7D Loss (exception code L) when aircrew depart an organization (refer to paragraph 10.3.6). Aircrew shall be assigned to only one IMR per DSF, or reporting errors will result.

- Only approved DIFOPS CVW staff billets shall use the S (staff) exception code. All other aircrew, including other DIFOPS-assigned staff officers, shall use the exception code E when flying in aircraft assigned to an organization (RECTYP 7B block 21 ORG code) different than one to which they are assigned (ORG code for the IMR to which the aircrew is assigned). DIFOPS-assigned station pilots should be placed on the station's IMR, requiring no exception codes when flying station aircraft.

l. The use of the code tables provided in Appendixes D, F, G, and I is mandatory. Routine codes required for form completion are printed on the back of copy one. Abbreviated TMR codes are printed on the back of copy three. Training codes are available in the type commander joint training and readiness (T&R) manual (CNAP/CNAL 3500.67/63 series), Marine Corps T&R manuals (MCO 3500 series), or other governing instructions as appropriate. Refer to paragraph 10.3.3. Weapon proficiency codes are located in Appendix H. Commanding officers shall ensure that crewmembers

AIRCRAFT INSPECTION AND ACCEPTANCE RECORD — OPNAVINST 4790.2E

1. A/C BU/SER NO.	2. T/M/S	3. RPT. CUST.	4. OXY	5. FUEL GRADE	5. FUEL QTY	6. OIL GRADE	6. OIL 1	6. OIL 2	6. OIL 3	6. OIL 4	7. DATE

8. ORDNANCE / SPECIAL EQUIPMENT / LIMITATIONS / REMARKS:

9. I have personally inspected this aircraft IAW the applicable MRCs/ checklists. Any discrepancies noted have been entered on OPNAV 4790/38.
SIGNATURE OF PLANE CAPTAIN — RANK/RATE

10. Certification of safe for flight condition by the MO, MMCO, or MCO. Other persons may sign this form if authorized.
SIGNATURE — RANK/RATE

11. I have reviewed the discrepancy reports of the 10 previous flights, insured proper filing of weight and balance data, and accept this aircraft for flight.
SIGNATURE OF PILOT IN COMMAND — RANK

OPNAVINST 4790/141 (12-88) S/N 0107-LF-009-4100

Figure 10-1. Aircraft Inspection and Acceptance Record (OPNAV 4790/141)

NO.

NAVAL AIRCRAFT FLIGHT RECORD

PAGE ____ of ____

AIRCRAFT DATA (RECORD TYPE 7B)
SIDE NO — BUNO-SER — TEC — ORG — TOTAL MISSION REQUIREMENT (TMR) DATA — SUPT CODE — TOT FLT — CAT/ DATO — AIRLIFT MISSION NO. — REC TYP — ENGINE HRS 1 2 3 4 — NO HOISTS

AIRCREW DATA (RECORD TYPE 7C; IF EXC CODE = CL, L OR R, RECORD TYPE = 7D)
NAME — SSN — FLIGHT TIME: TPT, CPT, SCT — INSTRUMENT: ACT, SIM — NIGHT TIME — LANDINGS — APPROACHES — TRAINING CODES: 1ST, 2ND, 3RD — REC TYP

LOGISTICS DATA (DEPART — RECORD TYPE 7E; ARRIVE — RECORD TYPE 7F)
TIME — DATE (JULIAN) — ICAO OR SHIP FD — DISTANCE — DELAY: 1ST, 2ND, HRS — CONFIRMED PAYLOAD: PRI 1, PRI 2, PRI 3, PRI 4, PRI 5, PAX NO., CARGO (LBS) — OPPORTUNE PAYLOAD: PAX NO, CARGO (LBS) — CONFIG DATA: CODE, MAX PAX, MAX CARGO (LBS)
DEPART / ARRIVE (rows 1–5)

WEAPONS PROFICIENCY DATA (RECORD TYPE 7G)
TRNG AREA DATA: TRNG AREA 1, HRS 1, TRNG AREA 2, HRS 2 — DELIVERY DATA 1: ORD 1, DEL 1, RUNS 1, SCORE 1 — DELIVERY DATA 2: ORD 2, DEL 2, RUNS 2, SCORE 2 — DELIVERY DATA 3: ORD 3, DEL 3, RUNS 3, SCORE 3 — MISC DATA 1: CD 1, DATA 1 — MISC DATA 2: CD 2, DATA 2 — REC TYP

(REMARKS) — (NAME/GRADE/LOCAL USE) A B C D E F G H — FLIGHT QUALIFICATION EXPIRATION DATES — REC TYP 7O — A/C OR MSN CMDR SIGNATURE/GRADE

OPNAV 3710/4 (Rev. 2-84) S/N 0107-LF-037-1020

Figure 10-2. Naval Aircraft Flight Record (OPNAV 3710/4)

c. The latest information concerning submission and payment of these claims is contained in the MILPERSMAN.

9.5 U.S. CUSTOMS, HEALTH, IMMIGRATION, AND AGRICULTURAL CLEARANCE

9.5.1 Naval Aircraft. Every effort should be made to arrive at the entry airport during those periods of time when customs/health/immigration/agriculture services are available. Official working hours within the U.S. are usually 0800 to 1700 local, Monday through Friday. Overtime charges accrue for services performed after official working hours.

9.5.2 Military Aircraft Arriving in the Continental U.S. From Overseas. Military departments that operate aircraft arriving in the continental U.S. from overseas shall provide timely advance notice of the aircraft's point of departure and expected arrival time at a U.S. airport of entry.

9.5.3 Discharging of Passengers/Cargo. The aircraft commander/mission commander shall not permit any cargo, baggage, or equipment to be removed from the aircraft without permission from customs officials. Passengers or crewmembers shall not depart from the landing site prior to release by the customs official. Removal of cargo and/or departure of personnel may be allowed should such be necessary for the safety or preservation of life and property. Violations of customs regulations could result in a fine for which the aircraft commander/mission commander may be personally responsible.

9.5.4 Foreign Military Aircraft. Commanding officers are advised to inform the pilot in command of visiting foreign military aircraft that the aforementioned formalities must be complied with before the aircraft and crew may be given clearance through customs. Additionally, commanding officers of all naval air activities whose facilities are used by foreign aircraft are directed to advise appropriate local government officials of the intended movements into or out of the United States by such aircraft.

9.5.5 Medical or Economic Insect Pests. When notified by competent authority of a potential hazard from medical or economic insect pests, such as disease carrying mosquitoes, Mediterranean fruit fly, Japanese beetle, etc., commanding officers shall in cooperation with the cognizant Governmental agency institute appropriate inspection and/or quarantine procedures for the control of such pests. Technical assistance may be obtained from the Naval Environmental Health Center; Environmental and Preventive Medicine Unit; or disease, vector, ecology, and control centers.

9.6 DISPERSAL OF PESTICIDES

Pesticides shall not be dispersed from naval aircraft in the continental U.S. or possessions without approval of the District Commandant, Commander Marine Corps Air Bases, Area Coordinator, or his/her delegated authority. In areas where there is danger of spray contamination to civilian property, all property owners must be contacted and their permission obtained. Where state statutory authority permits release by boards of county commissioners and/or other authorized agencies against claims and damages resulting from aerial dispersal of pesticides, such release may be obtained in lieu of individual property owner permission. The use of aircraft in the dispersal of a pesticide shall not be approved unless the application is recommended by a BUMED medical entomologist or a Naval Facilities Engineering Command (NAVFACENGCOM) applied biologist who is certified as a DOD pesticide applicator in Category 11, Aerial Application.

(1) Grant a waiver of standards to permit continued unrestricted flight status.

(2) Grant a waiver of standards to a restricted flight status that may include limitations in service group, aircraft type, mission type, in-flight duties, duty location, operational tempo, or other requirements.

(3) Restrict from all duties involving flight with a statement concerning whether the disqualifying defects are considered temporary or permanent.

8.5.4.3 Flight Status. In cases where flight status is terminated, BUPERS, or CMC (ASM), as applicable, shall determine if the individual is to be retained within the aeronautical organization or assigned to duty outside the aeronautical organization.

8.5.4.4 Disposition. For aircrew personnel whose aeromedical disposition is considered uncertain by the examining flight surgeon, consideration shall be given to appearance before an appropriate board of flight surgeons (see MANMED).

8.5.4.5 Limited Duty (LIMDU). Aircrew personnel placed on LIMDU status by medical board action shall be considered to be physically incapacitated for all duty involving flight and all related training until such time as returned to flight status by medical board action and endorsement of a current flight physical by NAVAEROPMEDINST (Code 42). The LIMDU board report and a typed SF 88 and SF 93, or BUMED 6120/2, shall be forwarded to NAVAEROPMEDINST (Code 42) for appropriate action as soon as possible. Flight personnel placed in a LIMDU status strictly for geographical constraints (i.e., remain in or near proximity to a naval medical treatment facility for specialized treatment or followup treatment) and who are otherwise physically qualified and aeronautically adapted, may request a waiver to remain in a flight status. Waivers of geographical LIMDU will be considered on a case-by-case basis and may be granted by BUPERS/CMC (ASM) upon written request with supporting medical documentation submitted via NAVAEROPMEDINST (Code 42) as stated in this section.

8.5.4.6 Temporary Medical Waivers. Temporary waivers for any medical disability may be granted by the local board of flight surgeons based on type aircraft, mission, and patient review, pending final approval/disapproval by BUPERS/CMC (ASM).

8.5.5 Medical Service Groups. The physical standards for aviation personnel in each of the following medical service groups are outlined in MANMED. The medically related definitions and policies that shall, in general, be employed in this assignment of aviators to flight duties, are as follows.

8.5.5.1 Medical Service Group I. Aviators who meet the physical standards specified in MANMED shall be classified as Medical Service Group I. Those aviators may be assigned to flight duties of an unlimited or unrestricted nature.

8.5.5.2 Medical Service Group II. Those aviators who meet the physical standards outlined in MANMED, and those aviators of Service Group I who temporarily meet the physical standards of Service Group II. All aviators in Service Group II are restricted from shipboard aircrew duties (including V/STOL aircraft) except in helicopters.

8.5.5.3 Medical Service Group III. Those aviators who meet the physical standards outlined in MANMED. Medical Service Group III aviators shall operate only aircraft equipped with dual controls and be accompanied on all flights by a pilot or copilot of Medical Service Group I or II, qualified in the model aircraft operated. A waiver is required to act as pilot in command of multipiloted aircraft.

8.5.6 Medical Service Group III Pilot in Command Requests. Waiver requests for Medical Service Group III pilot in command duties may be made to CNO (N889) or CMC (Code ASM) via NAVAEROPMEDINST (Code 42) setting forth justification. The requests must be accompanied by a typed SF 88 detailing an aviation physical examination performed within the previous 6 months. Pilot in command authorizations are issued on an individual basis and automatically expire upon billet reassignment or failure to maintain the physical qualifications under which the authorization was issued, whichever occurs first. The request shall contain date of designation as a naval aviator and background experience pertinent to the type of waiver being requested.

8.6 AVIATION FLIGHT PHYSICAL AND SURVIVAL TRAINING REQUIREMENTS

All aircrew personnel shall continue to fulfill the periodic flight physical examination requirements contained in MANMED and paragraph 8.5 of this instruction. Training requirements for all categories of aeronautically designated personnel shall be in accordance with this instruction.

by CNO (N889), provides oversight of the RSSTP, and ensures standardization through the following:

(1) Instructor Training — The RSSMM shall conduct the Rescue Swimmer Instructor Course and issue the RSSTP Core Unique Instructor Training Program.

(2) Curricula Management — CNET shall coordinate the training requirements of CMC, TYCOMs, CNATRA, and the USCG; the RSSMM shall chair curricula conferences. The RSSMM shall develop and revise RSSTP curricula for CNO (N889) approval via CNATRA and CNET based upon the needs of the commands noted above, utilizing the procedures established by the SARMM, and employing the technical advice of BUMED.

(3) Training Analysis — The RSSMM shall monitor the attrition, rollback, and mishap trends of the RSSTP.

(4) Site Evaluations — The RSSMM shall conduct annual evaluations of CNO-approved training sites at HC-3; HS-1; Fleet Training Center, San Diego; and NAVAVSCOLSCOM, Pensacola.

8.4.5.1 Definitions. The following terms contained in paragraph 1.3 are relevant: competent authority, designations, DIFCREW, enlisted crewmember (USMC), naval air crewman (NAC).

8.4.5.2 Training Requirements. RSSTP includes initial and refresher training programs. All Category I aviation rescue swimmer school training shall be conducted at Naval Aviation Schools Command, NAS Pensacola. Category II aviation RSS training shall be conducted at HC-3, NAS North Island and HS-1, NAS Jacksonville.

8.4.5.3 Prerequisites

a. Initial Training — Satisfactory completion of NACCS within the preceding 6 months or be designated a naval air crewman. Must have a current flight physical, aeromedical clearance notice (BUMED 6410/2), and be current in all aviation water survival and aviation physiology training in accordance with the provisions of this chapter.

b. Refresher Training— Be a graduate of a CNO-approved rescue swimmer school. Must be designated a naval air crewman, have a current flight physical and aeromedical clearance notice (BUMED 6410/2), and be current in all aviation water survival and aviation physiology training in accordance with the provisions of this chapter.

8.5 AVIATION PHYSICAL EXAMINATIONS AND QUALIFICATIONS

8.5.1 General Requirements. Physical standards as established by BUMED are to be met as a continuing requirement, not solely at the time of the required physical examination. Physical qualification as certified by an appropriate physical examination is a prerequisite for flight for all aircrew personnel. Commanding officers shall suspend from flight duties all aircrew personnel who have not met annual flight physical qualifications. The physical may be accomplished starting the first day of the month preceding the birth month. Flight personnel who have not initiated an aviation physical examination by the last day of their birth month shall be considered not to have met annual flight physical qualifications. Flight personnel delinquent in receiving an aviation physical examination shall not be scheduled to fly unless a waiver has been granted by BUPERS/CMC.

8.5.2 Required Evaluations. Flight surgeons shall keep flight personnel under surveillance so that physical illness, fatigue, and emotional upset will be readily detected. Commanding officers shall establish administrative procedures to assure that all flight personnel report to a flight surgeon whenever their fitness to fly is questionable. Flight surgeons shall conduct interviews and/or physical examinations of aircrew personnel and make recommendations to the member's commanding officer as follows.

Note

Commanding officers and flight surgeons shall comply with applicable directives pertaining to mental health evaluations of servicemembers (see SECNAVINST 6320.24, Mental Health Evaluations of Members of the Armed Forces). Individuals who fall under "Military Whistleblower Protection" guidelines (SECNAVINST 5370.8) may require additional administrative procedures in conjunction with evaluation. Commanding officers are encouraged to consult with local flight surgeons and legal officers.

8.5.2.1 Periodic Flight Physical Examinations. All aircrew and duty involving flight denied (DIFDEN) personnel shall be examined at regular intervals as prescribed by MANMED.

Training may be required more frequently if directed by flight-approving authority.

(5) N5. Required for civilian aircrew; USN/USMC-enlisted Selected Reservists (SMCR/SELRES); USN special-mission personnel; USMC aerial observers, navigation officers, and door gunners; exchange aircrew (U.S. and foreign); and noncrewmembers on flight orders. For personnel remaining on flight status, refresher training requirements shall be as stated in paragraph 8.4.2.1. Civilian contractor flight operations and pilot qualifications are governed by NAVAIRINST 3710.1. N5 is the appropriate initial training for all aircrew or personnel on flight orders who have not completed N1 training. For aircrew equipped with a torso harness and/or ejection seat, outside of the CNATRA pipeline, N5 (jet) training shall be provided vice the N1/N6 combination. When an air crewman has previously completed N5 (prop/helo) or N1, R1 training shall be the appropriate course to complete.

(6) N6. Required for all aircrew selected to fly ejection-seat-equipped aircraft and other aircrew within CNATRA pipeline. N1 is the prerequisite and is used for determination of the 4-year training interval.

(7) N7. Initial and refresher HEED training is required for all aircrew who fly helicopters and other personnel authorized by CNO to use the device. N7 is advanced training and shall be conducted only after successful completion of N1, N2, N5, or N9. Refresher training using the device shall be completed in accordance with paragraph 8.4.2.1. When a refresher N7 is scheduled simultaneously with other refresher training (R1, R2, R3, or refresher N9), the N7 may be conducted prior to multiplace underwater egress training.

(8) N8. Basic survival swim course that may be used as remedial training for any NAWSTP course or as prerequisite course prior to N3, N4, N5, or N9 training.

(9) N9. Basic survival course in underwater egress training in device 9D5A for frequent flyers and other authorized personnel.

(10) N10. Basic survival course in underwater egress for aircrew authorized to use current chemical, biological, and radiological (CBR) ensembles. N10 is training that shall be conducted only after successful completion of N1 or N5. Refresher training using the device shall be completed in accordance with paragraph 8.4.2.1.

Note

N3, N4, N5, and N9 curricula provide aviation-specific water survival training. They provide minimal instruction in basic swimming. Students shall report for training with the following prerequisites: USN/USMC aircrew — U.S. Navy 2nd class swimmer or better; USMC helicopter assault troops — Marine Corps Water Survival CWS3 (to include survival flotation instruction) swimmer or better; all others — U.S. Navy 2nd class swimmer (refer to MILPERSMAN) or better.

b. Refresher Training

(1) R1. Required for aircrew flying ejection-seat-equipped aircraft and other aircrew wearing a torso harness. This is the appropriate training for all USN/USMC aircrew who were initially qualified in a parachute-equipped or nonparachute-equipped-aircraft and are transitioning to an aircraft where they will be equipped with a torso harness and/or ejection seat.

(2) R2. Required for aircrew flying nonejection-seat-equipped aircraft with parachutes.

(3) R3. Required for aircrew flying nonparachute-equipped aircraft.

Note

R1 or R2 training may be substituted for R3 training. Additional training for all other combinations shall be specified in the NAWSTP refresher curriculum, Appendix E.

8.4.4.7 Grading

a. Initial Training — Personnel who do not successfully complete any portion of initial training shall be classified as Unqualified with the following exceptions:

(1) N5 students who have not completed device training shall be classified as CQ but may not fly while in that status.

(2) Device training not accomplished because of inoperative devices/inclement weather as described in paragraph 8.4.4.7c.

b. Refresher Physiology Training (RP)

(1) RP1. Required for aircrew flying ejection seat equipped aircraft.

(2) RP2. Required for aircrew flying fixed-wing nonejection seat aircraft equipped with parachutes and/or pressurization systems.

(3) RP3. Required for aircrew flying helicopters including USMC helicopter aerial gunner/observers and enlisted noncrewmembers on flight orders.

(4) RP4. Required for all project specialists.

(5) RP5. Required for all civilian aircrew.

(6) RP6. For all special operations personnel requiring HAP training. RP6 training qualification is good for 36 months. This training meets USAF HAP training requirements.

(7) RP7. Required for all selected passengers.

Note

The above refresher courses may be substituted for one another, with adequate justification, as long as the required elements identified by an (x), listed in Appendix E, Figure E-1, are completed. Authorized training units may document (stamp) multiple qualifications for designated aviators meeting the required elements.

c. Other U.S. military services and foreign military aviators flying USN/USMC aircraft will complete the appropriate aircraft/service-specific curriculum elements of RP1/RP2/RP3. These aviators shall meet U.S. Navy quadrennial refresher training requirements.

8.4.3.6 Grading

a. Initial Training — Personnel who do not successfully complete all portions of initial training shall be classified as Unqualified.

b. Refresher Training — Personnel participating in NAPTP courses shall be graded as follows:

(1) Qualified (Q). Successfully completed all aspects of required training.

(2) Conditionally Qualified (CQ). Given to refresher personnel who have not successfully completed any one of the requirements identified by an (X) in Figure E-1. Personnel in that status may continue on flight status but must successfully requalify in only those elements not successfully completed. Failure to receive a grade of Qualified in the CQ area within 90 days results in an automatic grade of Unqualified and will require completion of the entire curriculum. Requalifications can take place at any CNO-approved NAPTP unit with the appropriate training device (if a training device is needed) or the lectures can be given by any aerospace physiologist. Initial students are not entitled to a grade of CQ.

(3) Unqualified (U). Individuals who do not complete two or more of the requirements identified by an (x) in Figure E-1 shall receive an Unqualified. Personnel in that status shall be grounded until they successfully obtain a grade of Q or CQ.

c. Inoperative Devices/Inclement Weather — Personnel participating in refresher training who are unable to complete a particular device because of equipment malfunction or inclement weather shall receive an overall grade of Qualified if they have successfully completed all other areas. Notation of the device training not received shall be made in the individual training jackets. Personnel participating in initial training must complete all devices to receive a grade of Q.

8.4.3.7 Pressure Suit Indoctrination. Prior to flight with such equipment, all flight personnel shall accomplish initial and refresher pressure suit training at designated USAF physiology training facilities. Pressure suit indoctrination is in addition to training requirements just described. A supplemental refresher course on the pressure suit is required every 3 years for flight personnel assigned to units whose mission includes pressure suit flights. Requests for initial and refresher pressure suit training shall be addressed to the USAF Surgeon General via the chain of command, COMNAVAIRSYSCOM (AIR-4.6), and BUMED (Code 231).

TO THE EXAMINING PHYSICIAN

This person is seeking clearance to fly military aircraft as a nonaircrew observer. He or she will be required to complete aviation physiology and water survival training. These training programs are designed as high risk training (described on the front of this form) and require a high degree of physiology and psychological stamina. Completion of these training programs may lead to actual flight in high performance ejection seat aircraft capable of sustained high g-force maneuvering. The purpose of this evaluation is to clear this individual for the required training as well as actual flight.

Please Complete and Elaborate on all Abnormal Findings and Positive Responses

Height _____ Weight _____ Temp _____ Pulse _____ Resp _____ B/P _____

Corrected Visual Acuity: Right _____ Left _____ Hearing: (Normal/Abnormal) _____

HGB or HCT _____ Urinalysis: Glucose _____ Protein _____ Ketone _____ Sp. Gravity _____

EKG (within last 12 months) _____ Chest XRAY (within last 3 years) _____

NL	ABN		Elaboration and Comments
☐	☐	HEENT (include eustachian tube patency)	
☐	☐	Heart and Vascular	
☐	☐	Chest and Lungs	
☐	☐	Abdomen, Genitalia, and Hernia	
☐	☐	Spine, Extremities, and Musculoskeletal	
☐	☐	Neurological	
☐	☐	Mental Status	

This person is medically fit to participate in [illegible] physiology and water survival training as well as actual flight in high performance military

Examining Physician's Signature _____ Phone # _____ Date _____

Flight Surgeon's Endorsement: **Type Aircraft** _____ Qualification PQ NPQ
For physiology and water survival training, and flight in military aircraft as a selected passenger.

Signature _____ Date _____
(Note: Scope of examination at the discretion of the Flight Surgeon)

Physiology Training: Curriculum _____ Qualification Q CQ UQ

Authorized Signature _____ Date _____

Water Survival Training: Curriculum _____ Qualification Q CQ UQ

Authorized Signature _____ Date _____

Commanding Officer's Endorsement: Type Aircraft _____ Approved ☐ Disapproved ☐

Signature _____ Date _____

OPNAV 3710/18 (3-95) (Back)

Figure 8-5. Clearance for Nonmilitary/Nonaircrew Personnel To Fly in USN/USMC Aircraft (Sheet 2 of 2)

NASA), and civilian agencies shall have an Aeromedical Clearance Notice (BUMED 6410/2) or Medical Clearance for Nonmilitary/Nonaircrew Personnel To Fly In USN/USMC Aircraft (OPNAV 3710/18 (3-95)) (Figure 8-5) for participation in the NAPTP/NAWSTP. The medical clearance will be valid for 1 year.

d. Appropriate medical clearances for other U.S. military and USCG/NASA personnel participating in the NAPTP/NAWSTP may be signed by those services' or agencies' medical officers, signifying that the individual is physically qualified for participation in NAPTP/NAWSTP.

e. Physical prerequisites for other personnel not identified above shall be determined on a case-by-case basis by CNO (N889) or CMC (ASM).

f. Personnel attending NAPTP/NAWSTP lectures only do not require medical clearances.

g. The same human factors/aeromedical qualifications concerning rest and sleep, drugs, and alcohol that appear in paragraph 8.3.2 shall apply to physiology and/or water survival training.

8.4.2.5 Selected Passengers/Passengers. The flight-approving authority shall ensure that personnel not tactical jet designated flying in aircraft equipped with ejection seats and/or personal oxygen systems that are used for primary life support have documentation of completion of required physiology and water survival training. Waivers to this requirement for individuals participating in orientation/indoctrination flights will, in general, not be granted. If absolutely required, waiver requests shall be submitted to Commandant of the Marine Corps (Code ASM), fleet commanders in chief; Commander in Chief, U.S. Naval Forces, Europe; Commander, Naval Air Systems Command; the Chief of Naval Education and Training; or Commander, Naval Reserve Force, as appropriate.

8.4.2.6 Waivers for Selected Passengers/Passengers. CNO (N88) will be an information addressee on all such waiver requests and approvals. If a waiver is granted by the above commands, the pilot in command shall ensure that the individuals are thoroughly briefed on installed life support and emergency egress systems and survival equipment prior to flight. Physiology and water survival training requirements for passengers in aircraft not equipped with ejection seats or personal oxygen systems used for primary life support are waived, provided a thorough briefing is conducted in accordance with the provisions of paragraph 7.1.3 and covers the following items:

a. Use of available oxygen systems and survival equipment (i.e., parachutes, lifevests, exposure suits)

b. Ditching, crash landing, and bailout procedures.

8.4.2.7 Training Waivers/Qualification Extensions. Except as specified in paragraph 8.4.2.5, personnel delinquent in the minimum NAPTP/NAWSTP refresher training requirements shall not be scheduled to fly unless a waiver/qualification extension has been granted by the appropriate type commanders or in accordance with this instruction. CNO or CMC may grant such a waiver/qualification extension if the preceding waiver authorities are not in the chain of command.

8.4.3 Naval Aviation Physiology Training Program

8.4.3.1 Aviation Physiology Training. The purpose of aviation physiology training is to familiarize all prospective and designated aeronautical personnel, selected passengers, project specialists, and any other authorized personnel with the aeromedical aspects of flight and prepare them to properly employ ALSS and survival procedures.

8.4.3.2 Training Content. This shall be accomplished by training that includes the following specific areas: basic human physiology with emphasis on cardiovascular, respiratory, auditory, vestibular, visual, and musculoskeletal systems; environmental stresses including noise, heat, vibration, acceleration, disorientation, and altitude; health and physical fitness; self-imposed stress; self-medication; hands-on egress training and hands-on training in ALSS and their utilization; and combat and survival first-aid. Commanding officers, aerospace physiologists, flight surgeons, and training and safety officers shall monitor the program to ensure that the curriculum supports their requirements.

8.4.3.3 Coordination. CNET shall coordinate the training requirements of CMC, TYCOMs, CNATRA, and COMNAVAIRESFOR. NAPTP curricula shall be submitted to CNO (N889) for approval. Curricula shall be developed by NAVAEROPMEDINST, the NAPTP model manager, and sent to BUMED via CNET. The curriculum shall be developed with the technical advice of other naval activities as necessary. CNO (N889)-approved curricula shall be distributed by NAVAEROPMEDINST to NAPTP for implementation. Initial and refresher training shall be accomplished at U.S. Navy and U.S. Air Force aviation physiology training facilities

aircrew as well as instructors. Preliminary data suggest that more experienced flight personnel may be at greater risk, as well as individuals who are new to the simulator. Flight personnel exhibiting symptoms of simulator exposure should abstain from same-day flying duties. Individuals who have experienced simulator sickness in the past have a greater probability of recurrence and should not be scheduled to fly for 24 hours following simulator exposure. Adaptation does occur over time.

8.4 TRAINING

Numerous training requirements are covered in this section. Commanding officers shall ensure that all of the requirements are met and that all training is documented in the NATOPS flight personnel training and qualifications jacket (OPNAV 3760/32).

a. Adjunctive Aviation Physiology Training/ Physiological Threat Briefs — Adjunctive training will be provided by flight surgeons, aerospace physiologists, aeromedical safety officers (AMSOs), aerospace experimental psychologists, aviation physiology technicians, and/or aircrew survival equipmentmen (PRs) assigned with aerospace physiologists. The training shall be relevant to the operational threat and/or the training mission. It is designed to be conducted in squadron spaces on a more informal basis and in much greater depth than initial or refresher training. It shall not be considered a replacement for initial or refresher NAPTP/ NAWSTP training. Adjunctive lectures/threat briefs typically available are listed in Appendix E, Figure E-2.

b. Fleet Air Introduction/Liaison of Survival Aircrew Flight Equipment (FAILSAFE) Program — Commanding officers shall ensure that aircrews receive indoctrination whenever new or modified ALSS is introduced to the fleet. ALSS technical data indoctrination packages (TDIPs) provided by the Naval Air Systems Command to AMSOs and aviation physiology training departments will be used to satisfy requirements.

8.4.1 General Aviation Survival/Emergency Egress Training

8.4.1.1 Ejection Seat Training. When transitioning to aircraft with a different type of ejection system, commanding officers shall ensure that a thorough brief on the new egress system is conducted before the initial flight. The training shall concentrate on the differences in the system (i.e., when to eject, the envelope of the new system, seat-man separation, ejection initiation, ejection sequence, normal operations, malfunctions, emergency ground egress, etc.). The training is specifically designed to be given by egress-system maintainers and aviators using the system. Commanding officers are encouraged to utilize flight surgeons and/or aerospace physiologists (if available) to address unique aeromedical and ALSS issues. Aeromedical personnel who by nature of their job/experience are knowledgeable about egress systems can be more involved in emergency egress training.

8.4.1.2 Interim Ejection Seat Training. Commanding officers shall ensure that interim static ejection seat/egress and emergency ground egress training is conducted annually and is valid for 12 months from the last day of the month in which the training occurred, utilizing appropriate, available local assets, (i.e., AMEs, PRs, crash crews, etc.). In addition, flight surgeons and/or aerospace physiologists (if available) should address the aeromedical aspects of ejection/ground egress. While similar to the transition brief mentioned in paragraph 8.4.1.1, this is more of a review of the preceding 12 to 18 months as well as actual drills on emergency ground egress if aircraft or trainers are available.

8.4.1.3 NVDs in Ejection-Seat-Equipped Aircraft. Flying with NVDs in ejection seat aircraft requires additional ejection/egress training for applicable aircrew and passengers using NVDs. Failure to remove NVDs prior to ejection may result in death or serious injury. NVD removal training will be incorporated into NVD initial training and annual ejection seat/egress training. This training will include actual drills on removal of NVDs prior to ejection. The pilot in command of NVD demonstration flights will ensure that passengers or non-NVD qualified aircrew are thoroughly briefed and demonstrated proper technique of removing NVDs for ejection situations.

8.4.1.4 Nonejection-Seat-Equipped Aircraft. Commanding officers shall ensure that lectures/drills on bailout/emergency ground/water egress for other than ejection-seat-equipped aircraft (i.e., helicopters, cargo/transport, patrol, etc.) are conducted annually; training is valid for 12 months from the last day of the month in which the training occurred, utilizing the appropriate, available local assets mentioned in paragraphs 8.4.1.1 and 8.4.1.2. Specific training shall be conducted for flight personnel with regard to assisting passengers and frequent fliers as defined in paragraph 1.3 of this instruction.

of self-medication and should be discouraged from using such drugs.

(3) Alcohol — The well-recognized effects (i.e., intoxication and hangover) are detrimental to safe operations. Consumption of any type of alcohol is prohibited within 12 hours of flight planning. Adherence to the letter of this rule does not guarantee a crewmember will be free from the effects of alcohol after a period of 12 hours. Alcohol can adversely affect the vestibular system for as long as 48 hours after consuming, even when blood-alcohol content is zero. Special caution should be exercised when flying at night, over water, or in IMC. In addition to abstaining from alcohol for 12 hours prior to flight planning, flightcrews shall ensure that they are free of hangover effects prior to flight. Detectable blood alcohol or symptomatic hangover shall be cause for grounding of flight personnel and the restriction of the activities of aviation ground personnel.

(4) Tobacco — Smoking has been shown to cause lung disease and impair night vision, dark adaptation, and increase susceptibility to hypoxia. Smoking is hazardous to nonsmokers, as the effects occur whether smoke is inhaled directly or secondarily. Persons desiring to smoke shall show due consideration for the desires of nonsmokers in the vicinity and abstain from smoking if asked. Further guidance on smoking is contained in paragraph 7.1.9 of this instruction.

(5) Caffeine — Excessive intake of caffeine from coffee, tea, cola, etc., can cause excitability, sleeplessness, loss of concentration, decreased awareness, and dehydration. Caffeine intake should be limited to not more than 450 mg per day, or 3 to 4 cups of coffee.

b. The use of illicit drugs is prohibited.

8.3.2.6 Illness. Acute minor illnesses such as upper respiratory infections, vomiting, or diarrhea can produce serious impairment of flight personnel. All illnesses shall be evaluated by competent medical authority. Recommendations for grounding shall be accomplished by the submission of a grounding notice (BUMED 6410/1). Clearance notices (BUMED 6410/2) shall be issued only by a flight surgeon. Where a flight surgeon is not available, clearance notices shall be handled in accordance with BUMEDINST 6410.5. Flight personnel who are hospitalized shall be evaluated in accordance with current BUMED directives and a clearance notice issued prior to flight. Ground support personnel should be similarly monitored. Aircrew shall not fly for at least 48 hours after general, spinal, or epidural anesthetic. Return to flying status thereafter shall be upon the recommendation of a flight surgeon and at the discretion of the commanding officer.

8.3.2.7 Dental Care. Dental procedures that involve the use of injectable drugs (e.g., novocaine) shall be cause for grounding for a period of 24 hours.

8.3.2.8 Pregnancy

a. Normal uncomplicated pregnancy in female air traffic controllers is not considered physically disqualifying in itself. Duty modifications during the first trimester and as pregnancy progresses toward term are expected and should be managed locally to accommodate local circumstances.

b. Because of the medical hazards of flight, pregnant flight personnel shall consult with their flight surgeon when they first suspect they are pregnant. Flight personnel are grounded during pregnancy unless a medical clearance to continue in flight status is granted by CNO (N889J) or CMC (ASM). Also, a local board of flight surgeons, as explained in OPNAVINST 6000.1, is able to issue an Aeromedical Clearance Notice (BUMED 6410/2) following their recommendation for waiver. This clearance notice is valid during the waiver review process until the waiver request is granted or denied by CNO or CMC. Request for flight or training waivers shall be originated by the pregnant servicemember and forwarded to CNO via the squadron commanding officer, wing commander, and Naval Aerospace Medical Institute (NAVAEROPMEDINST) (Code 42), or in the case of Marine Corps members to CMC (ASM) via appropriate chain of command and NAVAEROPMEDINST (Code 42). The request shall be accompanied by a report from a local board of flight surgeons in accordance with the Manual of the Medical Department (MANMED). Waivers are considered inappropriate for single-piloted aircraft, ejection seat aircraft, high-performance aircraft that will operate in excess of 2g's, and aircraft involved in shipboard operations. Participation in aviation physiology, aviation water survival, or other survival training programs is not permitted. Following pregnancy and recovery, an Aeromedical Clearance Notice shall be issued in accordance with paragraph 8.3.2.6 prior to resumption of flight duties.

8.3.2.9 Emotional Upset. Commanding officers must remain alert to the emotional and physical status of assigned personnel and take corrective action as may be necessary either for individuals or particular groups

8.3 HUMAN PERFORMANCE AND AEROMEDICAL QUALIFICATIONS FOR FLIGHT AND FLIGHT SUPPORT PERSONNEL

8.3.1 General. Operational readiness and aviation safety are enhanced by assuring that flight and other support personnel achieve and maintain an optimal state of physical and emotional health. Conditions which reduce that state can decrease performance and increase mishap potential. This section outlines basic guidelines that individuals and all levels of supervision and command can use to attain and monitor personnel performance.

Note

- The senior aviation commander responsible for conduct of tactical air operations may exceed these guidelines should operational necessity dictate. Exceeding the guidelines increases the probability of crew fatigue, causing impaired judgment and reduced performance.

- Landing signal officers (LSOs) shall meet the physiological standards required for aircrew in a flight status to perform the duties of a controlling or backup LSO. Maladies or injuries that do not impair mental acuity (such as minor sprains, etc.), but that preclude normal flight status may be waived by the flight surgeon on a case-by-case basis.

- Commanding officers and flight surgeons shall comply with applicable directives pertaining to mental health evaluation of servicemembers. (See DOD Directive 6490.1, Mental Health Evaluations of Members of the Armed Forces, of 14 September 1993, that is implemented by SECNAVINST 6320.24). Individuals who fall under "Military Whistleblower Protection" guidelines (DOD Directive 7050.6 of 3 September 1992, that is enclosed in SECNAVINST 5370.8) may require additional administrative procedures in conjunction with evaluation. Commanding officers are encouraged to consult with local flight surgeons and legal officers.

8.3.2 Factors Affecting Personnel Readiness and Qualifications. Numerous complex factors affect the readiness of flight and support personnel. Those factors must be understood by all concerned and appropriate countermeasures established to assure they do not reduce personnel readiness. Flight personnel should report any physical indisposition to superiors and assume flight duty only when fit to do so. Since an individual may frequently be the poorest judge of personal fitness, commanding officers shall ensure that flight personnel are adequately observed and appropriate temporary grounding action is taken when necessary. The following guidelines and requirements should be considered for all aspects of naval aviation.

8.3.2.1 Rest and Sleep. Eight hours for sleep time should be made available every 24-hour period. Ground time between flight operations should be sufficient to allow flight personnel to eat and obtain at least 8 hours of uninterrupted rest. Flight personnel should not be scheduled for continuous alert and/or flight duty (required awake) in excess of 18 hours. If it becomes necessary to exceed the 18-hour rule, 15 hours of continuous off-duty time shall be provided. Flight and ground support personnel schedules shall be made with due considerations for watch standing, collateral duties, training, and off-duty activities.

8.3.2.1.1 Circadian Rhythm. Circadian rhythms are cyclic fluctuations of numerous body functions that are set like a "biological clock" to a local time or sleep/awake periods. Changing local sleep/awake periods or rapidly crossing more than three time zones disrupts circadian rhythms and can cause a marked decrease in performance. This condition, called "jet lag," is compounded by illness, fatigue, or drugs, and is resolved only by accommodation to the new local time or sleep/awake period. The accommodation period can be estimated by allowing 1 day for every hour in excess of 3. Accommodation begins when a new daily routine is established. During that period, aircrew are not grounded but can be expected to perform at a less than optimal level. Closer observation by the flight surgeon during the period may be desirable.

8.3.2.2 Flight Time. Precise delineation of flight time limitations is impractical in view of the varied conditions encountered in flight operations. Required preflight/postflight crew duty time must be given due consideration. The following guidelines are provided to assist commanding officers:

a. Daily flight time should not normally exceed three flights or 6-1/2 total hours flight time for flight personnel of single-piloted aircraft. Individual flight time for flight personnel of other aircraft should not normally exceed 12 hours. The limitations assume an average requirement of 4 hours ground time for briefing and debriefing.

comply with SPAWARINST 5100.12 and NAVMEDCOMINST 6740.2.

p. Helicopter emergency egress device (HEED) — HEED shall be worn by all helicopter, E-2, and C-2 aircrew during overwater flights. Aircrew must complete initial HEED training prior to being issued personal HEED equipment. The flight-approving authority may provide HEED equipment to any nonair crewman who has successfully completed HEED and other prerequisite training.

8.2.1.2 Rescue Air Crewmen Equipment. The minimum personnel equipment to be carried by the rescue swimmer shall be in accordance with applicable aircraft type NATOPS manual and NWP 19-1.

8.2.1.3 Passengers. Passengers shall comply with the provisions of paragraph 8.2.1.1n.

a. Passengers in COD aircraft during shipboard launch and recovery and passengers in helicopters shall wear an approved protective helmet with reflective tape. The combat/parachutist helmet may be worn in lieu of the protective helmet with reflective tape, provided hearing protection is worn by all passengers. Waivers of this requirement may be granted by CMC/CNO only.

b. During shipboard logistic, nontactical operations, passengers in COD aircraft or non-FMF helicopters shall wear appropriate antiexposure protection whenever antiexposure suits are required for aircrew.

c. For all other aircraft, passengers shall be equipped with the same items of safety and survival gear as the flight personnel.

8.2.2 Liferafts. Liferafts of sufficient capacity to accommodate passengers and crew shall be provided in all aircraft when there would be a significant risk of water entry in the event of a mishap. Officers in tactical command may waive this provision during troop movements between sea and shore when they deem it appropriate and adequate SAR facilities are available.

8.2.3 Parachutes

8.2.3.1 Requirements. Parachutes shall be provided for all occupants of naval aircraft except as follows:

a. Multiengine transport and utility aircraft except for functional checkflights or as the unit commander directs.

b. Fleet air reconnaissance aircraft (EC-130 and E-6A, only).

c. Helicopters shall carry parachutes on flights involved in experimental or research operations.

8.2.3.2 Responsibility of the Pilot in Command. The pilot in command of a naval aircraft in which parachutes are required shall assure the following:

a. A parachute is available to all flight personnel and passengers in a location convenient to the intended user.

b. All flight personnel and passengers are familiar with the location, use of the type parachute provided, and bailout procedures for the aircraft in which embarked.

8.2.3.3 Quick Attachable Chest-Type Parachutes (QAC). At the discretion of the pilot in command, flight personnel and passengers of aircraft in which QAC-type parachutes are used may remove and stow their parachute harnesses in a readily accessible predesignated standard stowage space. Individuals performing pilot/copilot duties in such aircraft may remove their parachute harness only when both the following conditions prevail:

a. The flight is conducted during daylight hours.

b. The aircraft remains at or below 2,000 feet over open water or level terrain.

8.2.4 Oxygen/Cabin Pressurization. Except as stated in paragraph 8.2.4.1, all occupants aboard naval aircraft shall use supplemental oxygen on flights in which the cabin altitude exceeds 10,000 feet.

8.2.4.1 Unpressurized Aircraft. In unpressurized aircraft, the pilot at the controls shall use supplemental oxygen continuously when cabin altitude exceeds 10,000 feet. When oxygen is not available to other occupants, flight between 10,000 and 13,000 feet shall not exceed 3 hours duration, and flight above 13,000 feet is prohibited.

8.2.4.2 Pressurized Aircraft. Figure 8-3 governs the use of oxygen equipment in pressurized aircraft other than tactical jet aircraft flown above 10,000 feet pressure altitude. Oxygen shall be used when cabin altitude is maintained at 10,000 feet or greater except as modified by paragraph 8.2.4.3.

flights, unless otherwise directed by aircraft NATOPS manuals.

(b) A voice-capable radio shall be packed with all multiplace rafts.

(2) Emergency beacons

(a) An approved automatically actuated line-of-sight emergency beacon shall be installed in all ejection seats.

(b) An HF, beyond the line-of-sight, emergency beacon shall be packed with all multiplace rafts carried on board aircraft when performing extended overwater flights outside of normal oceanic air traffic routes.

j. Flashlight — Required for all night flights.

k. Antiexposure suits — The latest available type continuous-wear or quick-donning antiexposure suits, as appropriate, shall be provided for flight personnel of naval aircraft when in the event of a mishap there would be a significant risk of water entry and when any of the following conditions prevail:

(1) The water temperature is 50 °F or below.

(2) The outside air temperature (OAT) is 32 °F (wind chill factor corrected or below; see Figure 8-1).

(3) If the water temperature is between 50 °F and 60 °F, the commanding officer of the unit concerned must determine whether antiexposure suits are necessary (Figure 8-2) based on SAR factors as follows:

(a) Assess maximum probable rescue time. This is a function of mission distance, SAR equipment, and SAR location.

WIND SPEED MPH	WHAT THE THERMOMETER READS (degrees F.)											
	50	40	30	20	10	0	−10	−20	−30	−40	−50	−60
	WHAT IT EQUALS IN ITS EFFECT ON EXPOSED FLESH											
CALM	50	40	30	20	10	0	−10	−20	−30	−40	−50	−60
5	48	37	27	16	6	− 5	−15	−26	−36	−47	−57	−68
10	40	28	16	4	−9	−21	−33	−46	−58	−70	−83	−95
15	36	22	9	−5	−18	−36	−45	−58	−72	−85	−99	−112
20	32	18	8	−10	−25	−39	−53	−67	−82	−96	−110	−121
25	30	16	0	−15	−29	−44	−59	−74	−88	−104	−118	−133
30	28	13	−2	−18	−33	−48	−63	−79	−94	−109	−125	−140
35	27	11	−4	−20	−35	−49	−67	−82	−98	−113	−129	−145
40	26	10	−6	−21	−37	−53	−69	−85	−100	−116	−137	−148
	Little danger if properly clothed				Danger of freezing exposed flesh				Great danger of freezing exposed flesh			

Figure 8-1. Wind Chill Index

7.1.7.2 Procedures. Ditching and bailout bills shall be prominently displayed in all multipiloted aircraft having embarked flight personnel and/or passengers. Frequent drills shall be held to familiarize flight personnel with these instructions. Ditching and bailout signals shall be accompanied by simultaneous parallel announcements on the ICS or public address system whenever practicable.

Note

Bailout bills shall not be required in helicopters; however, strict compliance with the provisions of paragraph 7.1.3 is mandatory.

7.1.8 Command and Control Communication. Change in the control of aircraft shall be effected in a positive manner. As a minimum, a simple voice procedure (ICS or oral) shall be used to effect transfer of control responsibility. Pilots exercising control are responsible until they acknowledge verbally the relieving pilot's acceptance of control of the aircraft. Where noise level, cockpit configuration, or other conditions prevent a positive verbal exchange, the following procedure shall be used:

a. The pilot desiring to be relieved or pilot desiring to take control shall shake control stick or column.

b. Pilots taking control shall shake control stick or column.

c. Pilot being relieved shall hold both hands overhead and observe the relieving pilot.

d. Pilots who have taken control shall signify this fact definitely by placing their hand on their head when the other pilot is looking at them. The pilot originally in control shall not be considered relieved until the foregoing has been executed, and responsibility for control of the aircraft rests upon the pilot until that has occurred.

e. In aircraft where visual contact between the two control positions is impossible or unsatisfactory, shift of control shall be attempted only when an operative interphone system is provided.

f. In high-performance multicrew jet aircraft, the pilot ICS shall be selected to the "Hot Mic" position in aircraft so equipped for all takeoffs and landings. Below 2,500 feet AGL, "Hot Mic" shall always be selected unless the use of "Hot Mic" would significantly detract from the safety or mission effectiveness of the flight. Further use of "Hot Mic" should be prescribed in the individual flight manuals as appropriate to the installed system, mission requirements, and emergency capabilities.

7.1.9 Tobacco Products in Aircraft

a. The use of tobacco products in naval aircraft is prohibited.

b. Lighter Prohibition — Lighters with plastic liquid reservoirs and/or containers for refilling any lighter are prohibited in naval aircraft. Lighters with butane, propane, or methyl alcohol as a fuel are also prohibited.

7.2 PREVENTION OF CARBON MONOXIDE AND OTHER TOXIC BY-PRODUCT CONTAMINATION

a. General — Carbon monoxide, the most common toxic gas of combustion, as well as other toxic gases such as aldehydes present a serious safety of flight hazard. Prior to service acceptance, aircraft are tested to ensure an acceptable carbon monoxide level during operation. Such factors as wear and deterioration of airframe seals and opening of seams may increase susceptibility to carbon monoxide contamination.

b. Test procedures and technical directives — Test procedures are outlined in MIL-STD-800 that also references other pertinent technical directives on this subject.

c. Flight personnel procedures — Adherence to the following procedures will reduce the risk of gaseous intoxication.

(1) Pay particular attention to the detection of exhaust fumes and to physical symptoms indicating poisoning. If toxic gases are suspected prior to takeoff, the flight shall be discontinued until the source of contamination is determined and eliminated.

(2) When installed, select 100-percent oxygen regardless of altitude whenever carbon monoxide or other noxious or irritating gas is present or suspected. Use 100-percent oxygen until danger is past or flight is completed. If necessary, activate emergency oxygen supplies.

(3) Take precautions during ground operations to avoid contamination of the aircraft either by its own exhaust or by exhaust gases of adjacent aircraft.

provision when deemed advisable by the commanding officer.

7.1.2 Starting, Turning, and Taxiing

7.1.2.1 Authorized Personnel. Engines shall not be started without a pilot or designated mechanic in the pilot seat. See paragraph 7.1.2.4 concerning helicopters.

7.1.2.2 General Prestart Precautions

a. Before starting an engine, the wheels of the aircraft shall be chocked and the parking brake set unless a deviation from this requirement is specifically authorized by the applicable model NATOPS manual.

b. Where applicable, intake screens shall be installed on jet aircraft.

c. Prior to starting jet engines, intakes and surrounding ground/deck shall be inspected to eliminate the possibility of FOD.

d. When an engine is started by nonpilot personnel for testing and warmup purposes on aircraft other than transport and patrol class equipped with parking brakes, the plane shall be tied down.

e. Whenever an engine is started, personnel with adequate fire extinguishing equipment, if available, shall be stationed in the immediate vicinity of the engine but safely clear of intakes or propellers.

7.1.2.3 Starting Procedures. In starting an aircraft, all challenges and signals between the person operating the starting device and the person at the engine controls shall be clearly understood and so indicated by repetition before action is taken by either person. Where the engines are started entirely from the cockpit, the person at the engine controls shall exchange signals with a person observing the engine from outside the aircraft. In all cases, the propeller or jet intake duct and engine outlet, as applicable, shall be declared "all clear" prior to starting. Similarly, the rotor(s) of a helicopter shall not be engaged unless the individual in the cockpit is assured by positive signal that the area swept by the rotor(s) is "all clear."

7.1.2.4 Helicopters. When the engine of a helicopter is started, the controls should be manned by a qualified helicopter pilot. Commanding officers may authorize certain specially qualified personnel, other than pilots, to ground test helicopter engines and avionics when a pilot is not available; however, rotors shall not be engaged except by a qualified pilot. Commanding officers of naval aviation depots and naval facilities may authorize qualified civilian employees to start engines and engage rotors for ground system checks. Aircraft security requirements (e.g., tiedowns, chocks, parking brakes, etc.) shall be in accordance with applicable NATOPS.

7.1.2.5 Turnup. Before starting an engine for a high power turnup, aircraft other than transport and patrol class aircraft shall be well tied down and placed in such a manner that the propeller or jet blast will not cause damage to other aircraft, equipment, or property. During any ground runup, an outside observer shall be stationed in such a location as to be in view of the person at the controls at all times.

7.1.2.6 Taxiing

a. When taxiing in the close vicinity of obstructions or other aircraft, a qualified taxi director shall attend the taxiing aircraft as well as other ground personnel necessary to ensure safe taxiing.

Note

The pilot in command is responsible for safe taxi clearance from obstacles and other aircraft. When uncertain of safe taxi clearances, stop and utilize appropriate ground personnel prior to continuing to taxi.

b. Instructions and use of plane handling signals appear in NWP 42, the Aircraft Signals NATOPS Manual, and posters and pamphlets issued by CNO. All naval activities are directed to comply with these instructions.

7.1.3 Takeoff

7.1.3.1 Flight Personnel and Passenger Briefing. The pilot in command of a naval aircraft shall ensure that prior to takeoff flight personnel and passengers are adequately instructed on personal safety and survival equipment and procedures required for the particular aircraft in which they embark. Pilots of helicopters that embark passengers are released from briefing responsibilities while engaged in:

a. SAR missions

b. Transporting large troop contingents, reconnaissance parties, patrols, and outposts during field problems or when no opportunity is provided for the aircraft to be shutdown after embarkation

c. Shipboard operations when landings are precluded.

military flights. No special handling is normally afforded returning aircraft.

6.6.1.4 Letters of Agreement. Each naval air station from which aircraft conduct active ASW missions shall develop and implement a joint letter of agreement with the local FAA air traffic control facility. Frequent review to assure currency is mandatory. Letters of agreement will refer to SCATANA and must include the following provisions:

a. At least a 5-minute notification shall be provided to the ATC facility so that conflicting traffic may be cleared from the departure path of the ASW flight.

b. After notification, control of any conflicting traffic will be predicated on the release of the ASW aircraft immediately upon request with due regard for safety of flight.

c. A control tower shall clear ASW aircraft without delay to a position where it will be number one for takeoff unless an active air defense scramble is in progress.

d. The Navy assumes responsibility for separation of aircraft within the same mission.

Prior to signing and implementing the developed letter of agreement, it shall be forwarded to the cognizant ASW force commander for review and approval. NAVREPs should be freely consulted for assistance and advice in developing or revising joint letters of agreement.

Note

Aircraft engaged in drug interdiction operations are exempted from the direction of flight altitudes mandated by FAR 91.159 except:

(1) Within terminal control area (TCA) or airport radar service area (ARSA) unless specifically authorized by the facility having jurisdiction over the area.

(2) In any airspace at night unless the aircraft is under radar surveillance by ATC systems or other radar systems available to the DOD and the pilot is receiving traffic information derived from that radar concerning other aircraft in that airspace.

6.4.1 Control and Separation Within Prescribed Airspace. Within the above prescribed airspace, control and separation by one of the following methods is required:

a. When operating in accordance with an instrument flight clearance. Flight on IFR military training routes (IR routes) is included. When required, military assumption of responsibility for separation of aircraft (MARSA) may be applied between military aircraft as specified by letter of agreement or other appropriate FAA and military documents.

b. When operating within special use airspace, altitude reservations, ATC-assigned airspace (ATCAA), or other airspace, as specified by letter of agreement with the FAA. Flight may be conducted in IMC or VMC as appropriate to mission. OPNAVINST 3770.2 and FAA Handbooks 7400.2B and 7610.4C describe these categories of airspace for flight operations at sea. Within these airspace categories, tower control by a ship or radar control by a military radar unit (ship, shore, or airborne) shall be exercised to the maximum degree possible. The degree of radar control (advisory, positive, or close) shall be appropriate to airspace limitations, number of aircraft, nature of the operation, and the requirement to coordinate aircraft ingress and egress.

Note

When operating in designated special use airspace, aircrews shall be aware that civil aircraft may not honor such areas nor monitor appropriate radio frequencies required to receive hazard warnings.

c. When operating in accordance with VFR in the following areas:

(1) Class B, C, or D airspace under tower control.

(2) Military training routes during VFR legs.

d. When operating in a helicopter in accordance with VFR in addition to paragraph c above.

(1) Outside class B, C, or D airspace or controlled airspace.

(2) When below 2,000 feet AGL and beyond the 12-mile limit (international airspace) but within the domestic ARTCC boundaries.

(3) When Stage III service is available.

Note

The principle of see and avoid continues to apply regardless of the type of control or separation in VMC as set forth in paragraph 5.2.3.

6.4.2 Responsibilities

a. Pilot Responsibility — The pilot in command is responsible for the safe and orderly flight of the aircraft as set forth in paragraph 3.5.1.

b. Additional Responsibility — The exercise of separation or control of a naval aircraft by a ground, ship, or airborne controller constitutes assumption of an additional responsibility by another command for the safe navigation of that aircraft.

Note

It is of the utmost importance that aircraft operating independently or under the control of a ground, ship, or airborne controller remain within the specified vertical and horizontal limits of assigned airspace. That requires continuing reassessment of the navigational accuracy of the controlling ship or aircraft and total awareness of details depicted in current appropriate charts, publications, and military directives. It may require that vertical and horizontal limits be avoided by establishment of a self-imposed buffer airspace.

below 2,500 feet. In that event, changes will be made after level off.

d. Intersection Takeoff — Pilots may be cleared either at controller discretion or at pilot request for intersection takeoff to expedite aircraft departures and reduce delays. When clearing an aircraft for an intersection takeoff, controllers shall issue the measured usable runway remaining unless otherwise provided in local directives. Where intersection takeoffs are a routine operation, issuance of measured usable runway remaining information may be omitted if appropriate directives are issued to ensure that affected aircraft operators and ATC personnel are aware of the procedures being used. Pilots still retain the prerogative to use the full runway length, provided they inform the tower of their intentions. It is the pilot's responsibility to determine that sufficient runway length is available to permit a safe takeoff under existing conditions.

6.2.6 Takeoff and Landing Priorities for Jet Propelled Aircraft. The operation of jet propelled aircraft necessitates expeditious handling to avoid excessive fuel consumption during taxiing, takeoff, and landing operations; therefore, the following instructions shall be followed.

6.2.6.1 Pilots. Pilots shall not request priority for taxi, takeoff, or landing except when considered necessary.

6.2.6.2 Naval Control Tower Operations. Naval control tower operators shall not grant priority for taxiing, takeoffs, or landings unless the pilot of the jet aircraft so requests. In granting priority and whenever feasible:

a. Jet aircraft should be cleared first when propeller driven aircraft will delay taxiing and takeoff.

b. If jet aircraft are ready for takeoff and propeller driven aircraft are approaching for landing, jet aircraft should be cleared for takeoff and all other aircraft (except jet and hospital evacuation) shall be instructed to circle the field.

c. Jet aircraft approaching for landing should be cleared ahead of all other aircraft taking off and ahead of all aircraft landing except hospital evacuation aircraft.

6.2.7 Minimum Fuel. Minimum fuel is an advisory term indicating that in the judgment of the pilot the fuel state is such that no undue delay can be accepted en route to the destination. It is not an emergency situation, but undue delay may result in an emergency. If at any time the remaining usable fuel supply suggests the need for traffic priority to ensure a safe landing, the pilot shall declare an emergency and report fuel remaining in minutes. Both minimum fuel advisories and emergency fuel state shall be reported each time control is transferred to a new controller.

Note

Pilots declaring minimum fuel should not expect special handling from FAA controllers.

6.2.8 Handling of VIP Aircraft

a. Priority — Although priority is not normally given to VIP aircraft, controllers may give consideration to such aircraft provided safety of other aircraft is not affected. Controllers shall not request priority from FAA for VIP flights.

b. Estimated Time of Arrival — Persons charged with meeting and making arrangements for VIP flights may be embarrassed if such a flight arrives prior to the ETA. Every effort should be made to provide updated ETAs to interested parties. Except in unusual circumstances, pilots of VIP flights should not arrive prior to the ETA.

6.2.9 Approach Instructions. Single-piloted aircraft arriving on an IFR flight plan shall be provided single frequency approach (SFA) to the maximum extent that communications capabilities and traffic will permit. Those activities without SFA capabilities shall keep frequency and/or transponder code shifts to an absolute minimum below 2,500 feet above the surface.

6.3 LANDING INSTRUCTIONS

a. Tower Contact — Pilots on VFR flight plans shall contact the tower for landing instructions prior to entering class B, C, or D airspace. When special handling after landing will be required, the tower should be notified as soon as possible and again upon entering class B, C, or D airspace.

b. Waveoff — A waveoff is mandatory when ordered by the control tower, runway duty officer, or wheels watch unless the pilot is experiencing an emergency. The waveoff may be given by radio, light signals, red flares, or hand/flag signals.

c. Wheels Down Report — A wheels down report shall be given as the aircraft turns onto the base leg or after lowering the landing gear on straight-in

NOE navigation, strike rescue, etc.) and should be identified in the appropriate manual/instruction. Simulators may be used to support the training program, but shall not replace aircraft flight hour requirements.

h. For NVD training syllabus flights, the pilot in command (PIC) shall be current for the mission. For all other flights, both the PIC and copilot shall meet appropriate currency requirements.

i. Mixing different types of NVDs between aircrew within aircraft or flights of aircraft is not authorized.

j. Shipboard and ground operation involving groundcrews using NVDs shall be dictated by the platform NATOPS manual, (i.e., CV NATOPS, LPH/LHA/LHD NATOPS) or the applicable NWP.

5.8 OPERATION OF PILOTLESS AIRCRAFT

5.8.1 General Precautions. The operation of pilotless aircraft shall be conducted with due consideration of the potential hazard presented when they are out of control. Whenever practicable, pilotless aircraft shall be operated at such an altitude and on such paths that danger to personnel and property on the surface is reduced to a minimum. In operating pilotless aircraft, due consideration shall be given to avoiding other aircraft in flight.

5.8.2 Specific Operating Limitations

a. In planning and conducting the flightpath to, in, and from operating areas, all activities operating pilotless aircraft shall select and adhere to those tracks and altitudes that completely minimize the possibility of pilotless aircraft falling into a congested area in the event of electronic or material malfunction.

b. Aerobatics shall not be performed unless required for operational exercises of test or evaluation of operational designs.

5.8.3 Displays and Demonstrations. Participation of pilotless aircraft in public demonstrations, except for static display, is prohibited unless expressly authorized by CNO.

5.8.4 Overall Use and Control. Subject to the foregoing instructions and insofar as is practicable, the use and control of pilotless aircraft shall be the same as for piloted aircraft.

5.5.1.1 Noise Sensitive Areas. Breeding farms, resorts, beaches, and those areas designated by the U.S. Department of Interior as national parks, national monuments, and national recreational areas are examples of noise sensitive areas.

5.5.1.2 Noise Sensitive and Wilderness Areas. These areas shall be avoided when at altitudes of less than 3,000 feet AGL except when in compliance with an approved:

a. Traffic or approach pattern

b. VR or IR route

c. Special use airspace.

Noise sensitive areas shall be avoided in the development of IR and VR routes and additional special use airspace unless the 3,000-foot criteria can be observed.

5.5.1.3 Aerial Refueling. Aerial refueling over densely populated areas shall be avoided whenever possible.

5.5.1.4 External Stores/Cargo. Pilots carrying external stores/cargo shall avoid overflying populated areas whenever possible.

5.5.1.5 Temporary Flight Restrictions. Aircraft shall not be operated within an area designated by a NOTAM within which temporary flight restrictions apply except as permitted in FAR 91.137.

5.5.1.6 Flat Hatting. Flat hatting or any maneuvers conducted at low altitude and/or a high rate of speed for thrill purposes over land or water are prohibited.

5.5.2 Disturbance of Wildlife

5.5.2.1 General. Commanding officers of aviation units shall take steps to prevent aircraft from frightening wild fowl or driving them from their feeding grounds. When it is necessary to fly over known wild fowl habitations, an altitude of at least 3,000 feet shall be maintained, conditions permitting. During hunting season, pilots shall avoid flying near wildlife haunts except as noted above.

5.5.2.2 Firing. Firing at large fish, whales, or any wildlife inhabiting the land or sea is prohibited.

5.5.3 Zooming of Vessels. Restrictions on zooming are not intended to hamper standardized shipping/ASW surveillance rigging and photography procedures as defined in appropriate fleet operating instructions.

5.5.4 Avoidance of Commercial Carriers and Aircraft of Civil Registry. Normally, commercial carriers and civil aircraft are comparatively difficult to maneuver and are relatively "blind." Such aircraft shall be scrupulously avoided by a margin of at least 500 feet vertically or 1 mile laterally unless ordered otherwise by competent air traffic control authority. Under no circumstances shall aircraft be flown erratically or aerobatically in the close vicinity of civil aircraft.

5.5.5 Avoidance of Installations Important to Defense. Although a "special use airspace" designation has not been assigned to all ammunition depots, magazines, oil refineries, and other plants considered important to national defense, naval aircraft shall avoid flying over such areas when their location is known.

5.5.6 Jettisoning Fuel. Whenever practicable, fuel shall not be jettisoned (dumped) below an altitude of 6,000 feet above the terrain. Should weather or emergency conditions dictate jettisoning at a lower altitude, every effort shall be made to avoid populated areas. When under positive control, the pilot in command should advise the air traffic control facility that fuel will be jettisoned.

5.5.7 Air-to-Air Missile Training Flights. Aircraft carrying live missile components other than guidance and control heads are prohibited from utilizing piloted aircraft as targets for training unless all participants have been thoroughly briefed on the conduct of the flight.

5.5.8 Expenditure of Airborne Stores Through Extensive Cloud Cover

5.5.8.1 Naval Commands. Pilots of Navy and Marine Corps aircraft are only authorized to expend ordnance, fire missiles, or drop other airborne stores through cloud cover sufficiently extensive to preclude visual clearance of the air and surface area under the following conditions:

a. When operating over the high seas, provided area air and surface clearance can be ensured through radar surveillance or visual means. The operational commander conducting the exercise is responsible for the safeguarding of airborne and surface traffic. The fact that the firing is conducted in a warning area or that a NOTAM has been issued does not relieve the operational commander of his/her responsibility.

b. When operating over land (including over territorial waters), provided that the firing or drop is conducted within an activated restricted area and the impact is within a designated surface target/

5.3.3.2 Approach Criteria for Multipiloted Aircraft. When reported weather is at or below published landing minimums for the approach to be conducted, an approach shall not be commenced in multipiloted aircraft unless the aircraft has the capability to proceed to a suitable alternate in the event of a missed approach.

5.3.3.3 Approach Criteria for Single-Piloted Aircraft

a. An instrument approach shall not be commenced if the reported weather is below published minimums for the type approach being conducted. When a turbojet en route descent is to be executed, the approach is considered to commence when the aircraft descends below the highest initial penetration altitude established in high altitude instrument approach procedures for the destination airport. Once an approach has been commenced, pilots may, at their discretion, continue the approach to the approved published landing minimums as shown in the appropriate FLIP for the type approach being conducted. Absolute minimums for a single-piloted aircraft executing a precision approach are 200-foot ceiling/height above touchdown (HAT) and visibility 1/2-statute-mile/2,400 feet RVR or published minimums, whichever is higher.

b. Single-piloted aircraft that are configured for and assigned all-weather missions with side-by-side seating occupied by the pilot in command and an assisting NFO may operate within the same filing, clearance, and approach criteria specified above for multipiloted aircraft provided:

(1) The assisting NFO is instrument qualified in accordance with this instruction and NATOPS qualified in the model aircraft in which NFO duties are being performed.

(2) Cockpit configuration is such that the assisting NFO can:

(a) Monitor the pilot flight instruments

(b) Monitor and control communication

(c) Assist the pilot in acquiring the runway visually.

5.3.3.4 Criteria for Continuing Instrument Approaches to a Landing. Pilots shall not descend below the prescribed minimum descent altitude (MDA) or continue an approach below the decision height (DH) unless they have the runway environment in sight and in their judgment a safe landing can be executed, either straight-in or from a circling approach, whichever is specified in their clearance.

a. Precision Approaches — A missed approach shall be executed immediately upon reaching the decision height unless the runway environment is in sight and a safe landing can be made. On precision radar approaches, the pilot may expect control instructions until over landing threshold; course and glidepath information given after decision height shall be considered advisory in nature.

b. Nonprecision Approaches — A missed approach shall be executed immediately upon reaching the missed approach point if visual reference is not established and/or a landing cannot be accomplished. If visual reference is lost while circling to land from a published instrument approach, the missed approach specified for that particular procedure must be followed. To become established on the prescribed missed approach course, the pilot should make an initial climbing turn toward the landing runway and continue the turn until he/she is established on the missed approach course.

5.3.3.5 Final Approach Abnormalities During Radar Approaches. The controller shall issue instructions to execute a missed approach or to climb and maintain a specific altitude and fly a specified course whenever the completion of a safe approach is questionable because one or more of the following conditions exist:

a. Safe limits are exceeded or radical aircraft deviations are observed.

b. Position or identification of the aircraft is in doubt.

c. Radar contact is lost or a malfunctioning radar is suspected.

d. Field conditions, conflicting traffic, or other unsafe conditions observed from the tower prevent approach completion.

5.3.3.6 Execution of the Missed Approach

a. Execution of the missed approach by the pilot is not necessary for conditions a, b, or c above if the pilot has the runway or approach/runway lights in sight. In these cases, controller phraseology shall be: (reason). If runway/approach lights/runway lights are not in sight, execute missed approach (alternate instructions). Reasons may include "radar

ALTITUDE	FLIGHT VISIBILITY	DISTANCE FROM CLOUDS
1,200 FEET OR LESS ABOVE THE SURFACE WITHIN CONTROLLED AIRSPACE	3 STATUTE MILES	500 FEET BELOW 1,000 FEET ABOVE 2,000 FEET HORIZONTAL
OUTSIDE CONTROLLED AIRSPACE: DAY (EXCEPT AS PROVIDED IN FAR SECTION 91.155(b))	1 STATUTE MILE	CLEAR OF CLOUDS
NIGHT (EXCEPT AS PROVIDED IN FAR SECTION 91.155(b))	3 STATUTE MILES	500 FEET BELOW 1,000 FEET ABOVE 2,000 FEET HORIZONTAL
MORE THAN 1,200 FEET ABOVE THE SURFACE BUT LESS THAN 10,000 FEET MSL — WITHIN CONTROLLED AIRSPACE	3 STATUTE MILES	500 FEET BELOW 1,000 FEET ABOVE 2,000 FEET HORIZONTAL
OUTSIDE CONTROLLED AIRSPACE: DAY	1 STATUTE MILE	500 FEET BELOW 1,000 FEET ABOVE 2,000 FEET HORIZONTAL
NIGHT	3 STATUTE MILES	500 FEET BELOW 1,000 FEET ABOVE 2,000 FEET HORIZONTAL
MORE THAN 1,200 FEET ABOVE THE SURFACE AND AT OR ABOVE 10,000 FEET MSL	5 STATUTE MILES	1,000 FEET BELOW 1,000 FEET ABOVE 1 MILE HORIZONTAL

Figure 5-1. Basic VFR Flight Minimums

accordance with VFR and aircraft shall be equipped and pilots qualified for instrument flight.

c. A simulated instrument approach to an airport for which an approved instrument approach exists shall not be commenced until prior approval has been obtained from the appropriate approach control or, in the case of nonapproach control locations, the airport traffic control tower. At nontower airports, the associated flight service station, if applicable, shall be notified of the simulated instrument approach.

5.3 INSTRUMENT FLIGHT RULES AND POSITIVE CONTROL PROCEDURES

5.3.1 General Requirements

5.3.1.1 Increased Use of IFR Filing and Positive Control. To decrease the probability of midair collisions, all flights in naval aircraft shall be conducted in accordance with IFR to the maximum extent practicable. This shall include all point-to-point and round-robin flights using Federal airways and other flights or portions thereof, such as flights to and from target or operating areas accessible through IFR filing. All other portions of flights shall be conducted under positive control to the maximum extent possible.

Note

- Commanding officers shall ensure compliance with the intent and spirit of this requirement and shall scrutinize all flight operations as to mission and purpose to assure they are conducted in accordance with IFR or positive control to the maximum extent practicable without mission degradation.

- Global positioning system (GPS) shall not be used as the means of navigation to file or fly in the national airspace system unless that aircraft has been certified.

5.3.1.2 Waiving IFR Requirement. Where VFR conditions exist, pilots may waive this requirement for specific flights when necessary to circumnavigate or otherwise avoid severe weather or when dictated by an in-flight emergency.

5.1.9.4 Instrument Departures. Two-plane formation for subsequent flight into instrument conditions is authorized provided the weather (ceiling and visibility) is at or above the published circling minimums for the runway in use. In the event a circling approach is not authorized, ceiling and visibility must be at least 1,000 feet and 3 statute miles.

5.1.9.4.1 Radar Trail Departures. For aircraft equipped with operable air-to-air radar capability, formations of up to four aircraft are authorized to depart as a nonstandard formation (radar trail departure) when existing weather conditions are other than prescribed in above paragraph and that nonstandard formation has been approved by ATC.

5.1.9.5 Joining Formations

a. Unless specifically ordered, a single aircraft shall not join a formation in the air. One formation shall not join another formation. The order for joining formation in the air shall be given prior to takeoff of the aircraft concerned or by radio, and the leader of the formation to be joined shall be informed that the order has been given. Exceptions to this paragraph may be made when the leader of a formation signals another aircraft to join the formation.

b. When about to join a formation, the pilot of a single aircraft or leader of other formations shall approach their formation position from a safe altitude and from the side. They shall not take their final position until their presence has been acknowledged by the leader of the formation to be joined.

c. Whenever a lead change is required in a formation of two or more aircraft, it will be accomplished in an unambiguous manner. Pilots shall ensure that both aircraft exchanging the lead are aware of the change through positive acknowledgment by visual signals or voice transmissions.

5.1.9.6 Approach Criteria for Aircraft in Formation

a. Instrument approaches with or without intent to land in IMC by formations of more than two aircraft are not authorized. Penetration of IMC to obtain VMC by formations of more than two aircraft is authorized.

b. Formation flights shall not commence an instrument approach when the reported weather is less than circling minimums for the runway in use. In the event a circling approach is not authorized, the ceiling and visibility must be at least 1,000 feet and 3 statute miles. Once an approach has been commenced, leaders may, at their discretion, continue the approach in formation to the minimums prescribed in paragraph 5.3.3 for the type aircraft being flown.

c. Whenever feasible, aircraft making section instrument penetrations/approaches should transition to landing configuration above the overcast whenever existing weather is below VFR minimums. Aircraft in formation shall not obtain interval by slowing to less than normal approach speed by "S" turning. If safe landing interval cannot otherwise be obtained, a waveoff shall be executed. When landing interval will result in two or more aircraft on the runway at the same time, staggered landings on alternate sides of the runway shall be made. When crosswind conditions dictate or when centerline landings are preferred, landing interval shall be the same as that required for aircraft proceeding independently.

d. Formation approaches by aircraft of markedly different approach performance characteristics are not recommended.

e. Formation touch-and-go landings are prohibited.

5.1.9.7 Dissimilar Formation Flight. Pilots involved should perform a preflight brief delineating all aspects of the pending formation flight. Items to be briefed in addition to those identified above shall include items peculiar to either aircraft community (e.g., limitations/capabilities/hazards affecting the flight/rendezvous/joinup/separation).

5.1.9.8 Unplanned Formation Flight. In the event unscheduled formation flight becomes necessary, every attempt shall be made by the aircrew involved to conduct a sufficient in-flight brief prior to joinup.

5.2 VISUAL FLIGHT RULES PROCEDURES

5.2.1 Compliance With Directives. The pilot in command shall ascertain that the contemplated flight can be conducted in accordance with the visual flight requirements of FAR, other governing regulations, and flight rules set forth in this instruction. Visual meteorological conditions are the flight weather conditions that permit military aircraft operations under VFR. If weather conditions are not VMC, military aircraft operations must be either under special VFR or IFR (excluding special military operations).

WARNING

The flightpath behind a low-flying aircraft, co-altitude, should be avoided because of the effects of wake turbulence, jet or propeller wash, and the possibility of ordnance release. In addition, extended maneuvering precipitated by defensive reactions to repeated attacks can result in a depleted energy state such that continued maneuvers are unsafe because of ground proximity.

5.1.7.7 Fixed Wing Versus Helicopter and Helicopter Versus Helicopter ACM Altitude Restrictions

a. No fixed-wing (F/W) high AOA/slow-speed maneuvering below 10,000 feet AGL is allowed.

b. The chart below gives the minimum altitudes for aircraft by type engagement:

Helicopter versus helicopter	100 feet AGL both aircraft
Helicopter versus F/W (Low attack angle 0° to 10°)	100 feet AGL, 500 feet AGL respectively
Helicopter versus F/W (High attack angle greater than 10°)	100 feet AGL, 1,000 feet AGL respectively

5.1.7.8 Fixed Wing Versus Fixed-Wing ACM and Ground Attack Interface. The following additional ACM related rules apply to multimission and composite force training where ground attack and escort aircraft may come under attack:

a. Aggressor aircrew will be briefed on target location for any ordnance drops. The briefing will include planned weapon delivery maneuvers and type ordnance, as appropriate. Aggressors shall break off an attack on strike aircraft below 10,000 feet AGL at a minimum of 3 nm prior to the designated target area. In no case will strike aircraft be attacked while executing an ordnance delivery maneuver.

b. Aircraft carrying live external A/G ordnance shall not engage in ACM. A wing rock or a defensive hard turn, not to exceed 180É, may be made to acknowledge an attack. Aircraft carrying inert ordnance (including captive carry air-to-ground missiles) may engage in ACM at the discretion of the squadron commanding officer based on weight/drag and specific aircraft performance.

c. Aggressor aircraft will discontinue attack on a strike/escort aircraft following the strike/escort aircraft's wing rock or defensive turn (maximum of 180°).

5.1.7.9 Termination of ACM Engagements

a. ACM shall cease when:

(1) Any training rule is violated.

(2) "Knock it off/terminate" is called by any aircrew or controller.

(3) Any dangerous situation develops or there is a loss of situational awareness.

(4) Any out-of-control flight situation develops.

(5) Radio failure by any aircraft.

(6) Bingo fuel state is reached.

(7) Training objectives have been accomplished.

(8) An unbriefed aircraft enters the engagement area and is detrimental to flight safety.

(9) When an aircraft rocks its wings (fixed or rotary).

b. At the completion of engagement, aircraft shall maneuver appropriately to deconflict with all other aircraft and should extend beyond visual range prior to any reattack, consistent with the briefed training objectives. The intent is to prevent visual repositioning and repeated attacks against defending aircraft that are pursuing a different mission.

c. All ACM participants have responsibility for termination of ACM training engagements when a dangerous or rapidly deteriorating situation is recognized.

d. "Knock it off" means that all participating elements in an exercise will cease maneuvering. "Terminate" applies to individual elements or engagements within an overall exercise and means the individual units involved in a localized engagement

radar lock from boresight) within 20° of the target's nose shall be broken off at a minimum of 9,000 feet. Inside 9,000 feet, the pilot's undivided attention shall first be devoted to maintaining flight separation. Inside 9,000 feet, off-boresight missile attacks may be prosecuted down to missile minimum range provided that flight separation has already been established.

(2) Fixed-wing gun attacks will be broken off at a minimum of 1,000 feet so as not to pass any closer than 500 feet to the defensive aircraft. Gun attacks in excess of 135° track crossing angle (approaching head-on) are prohibited.

j. Fixed wing versus helicopter TR:

(1) All aircrew shall have completed initial low-altitude flight training as outlined by appropriate COMNAVAIRPAC, COMNAVAIRLANT, COMNAVAIRESFOR, or CMC directives.

(2) Supersonic flight is not authorized.

(3) If aircraft lose sight, they will disengage. Fixed-wing aircraft will climb to at least 3,000 feet AGL. Helicopters will climb to at least 300 feet AGL.

(4) Fixed-wing gun attacks will be broken off at a minimum of 1,000 feet.

k. Helicopter versus helicopter:

(1) All aircrew shall have completed initial low-altitude flight training as outlined by appropriate COMNAVAIRPAC, COMNAVAIRLANT, COMNAVAIRESFOR, or CMC directives.

(2) During prebriefed tail chase maneuvers, aircraft will maintain a minimum of 200 feet of separation.

(3) An engagement shall be terminated if all aircrews unintentionally lose sight of each other. The engagement will not be resumed until all participants have reacquired each other.

(4) No close range helicopter engagement will involve more than two 360° turns.

(5) Pilots should not attempt to counter an adversary's altitude advantage with erratic or excessive climbing maneuvers.

(6) Astern gun attacks will be broken off at a minimum of 500 feet.

5.1.7.4 ACM Communication Requirements. To facilitate positive control of aircraft and provide adequate safety measures, the following shall apply for the conduct of flights involving ACM training:

a. All aircraft participating in ACM must have two-way radio communication. All multiplace aircraft must have an operable intercommunication system (ICS).

b. Guard frequency will be monitored throughout all engagements.

c. A single aircraft engaging another single aircraft will monitor a common radio frequency.

d. Multiple flights:

(1) Flights of two or more aircraft engaging another flight of one or more aircraft may operate on assigned separate frequencies using either of the following control measures: each flight is under positive radar control of separate controllers and a senior air director (SAD) in the supervisory role is monitoring both frequencies, or each flight is under the positive control of separate range training officers (RTOs) on an instrumented range (TACTS). When a potentially dangerous situation develops, a call to "Knock it off/terminate" shall be relayed by the SAD or RTO on both frequencies. Type commanders can waive this restriction as requirements dictate.

(2) Dual-radio-equipped aircraft may elect to use a discrete intraflight frequency without separate GCI/TACTS control provided one radio is used to monitor the opposing section frequency.

e. Any no-radio (NORDO) aircraft will rock its wings and assume 1g flight to signal loss of communication. Should an aircraft rock its wings or assume a wings-level 1g condition during an encounter, that engagement shall be terminated.

f. Should any air crewman observe an unsafe or potentially dangerous situation developing, he/she shall announce it by transmitting, "Knock it off/terminate," and shall maneuver appropriately to termi- nate the engagement.

5.1.6.3 Designated Aerobatics Areas. Appropriate commanders shall establish and designate areas in which aerobatics may be performed in compliance with the above restrictions and, under FAR, Part 91.303, in airspace where FARs apply. Pilots are encouraged to conduct aerobatic flight within the limits of designated aerobatic areas whenever the assigned mission permits.

5.1.7 Simulated Air Combat Maneuvering (ACM) Training Rules

5.1.7.1 General

a. ACM is defined as the following:

(1) Aggressive three-dimensional maneuvering between two or more aircraft simulating offensive or defensive aerial combat where the potential for a role reversal exists.

(2) Defensive maneuvers or other combat avoidance maneuvers by one or more aircraft.

Note

- Aerobatic maneuvers in accordance with NATOPS manuals on scheduled training flights approved by competent authority are not considered to be ACM. However, single aircraft practicing ACM maneuvers shall comply with the appropriate portions of the training rules (decks, cloud clearance, area, g warmup, etc.).

- Air intercepts, performed in accordance with NATOPS manuals or as prescribed by cognizant type commanders and not considered to be ACM. These intercepts will result in no more than 180° of turn by any aircraft postmerge and will be terminated prior to any potential role reversal.

- The following maneuvers are considered to be ACM. This list should not be considered to be all inclusive.

  (a) Neutral starts (to include butterfly starts)

  (b) Offensive/defensive perches

  (c) Scissors maneuvers (roller, flat, looping)

  (d) Gun defenses

  (e) Missile defenses to full blown engagements.

- The following maneuvers are not considered to be ACM. However, ACM flight leads should use prudent head work to ensure that adequate separation from clouds can be maintained during any three-dimensional maneuvering:

  (a) Snapshot drill (guns weave, weapons weave)

  (b) Tail chase (heat-to-guns drill)

  (c) Forward quarter missile defenses that are terminated at the merge.

b. ACM qualification proficiency requirements and a training syllabus shall be issued by COMNAVAIRLANT, COMNAVAIRPAC, COMNAVAIRESFOR, or CMC. Pilots and naval flight officers flying ejection seat aircraft shall complete out of control flight (OOCF)/spin training for currently assigned aircraft, as deemed appropriate by type commanders. Training flights shall be conducted under a formal training syllabus under direct supervision of mature, experienced flight leaders and only after all participants have been thoroughly briefed on the conduct of the flight. Unscheduled simulated combat between naval aircraft or between naval aircraft and aircraft of any other service or registry is prohibited.

c. Pilots of naval aircraft shall not make simulated attacks on any aircraft that has troops or passengers embarked except as may be authorized by fleet commanders for exercises where coordinated and scheduled simulated attacks against military troop transport aircraft are desired for training purposes.

d. Squadron commanders will ensure that all participants are qualified and current in accordance with applicable directives in order to participate in ACM.

e. Prior to commencing ACM maneuvering, fixed-wing aircrews shall perform a "g" awareness maneuver. This maneuver shall consist of a total of 180° of turn and should be used to operationally check g suits and to practice straining maneuvers up to an amount of g's approaching the maximum amount anticipated on that particular flight.

f. If an aircrew experiences g loss of consciousness (GLOC) during any portion of the flight, the flight shall immediately terminate and that aircraft shall return to base.

5.1.2 Right-of-Way Between Single and Formations of Aircraft. When a single naval aircraft is converging with an aircraft formation at approximately the same altitude (except head-on, or nearly so), the formation flight has the right of way. In other cases, the formation shall be considered as a single aircraft and the right-of-way rules of FAR 91.113 apply.

5.1.3 Unusual Maneuvers Within Class B, C, or D Airspace. Pilots shall not perform or request clearance to perform unusual maneuvers within class B, C, or D airspace if such maneuvers are not essential to the performance of the flight. ATC personnel are not permitted to approve a pilot's request or ask a pilot to perform such maneuvers. Unusual maneuvers include unnecessary low passes, unscheduled fly-bys, climbs at very steep angles, practice approaches to altitudes below specific minimums (unless a landing is to be made), or any so-called "flat hatting" wherein a flight is conducted at a low altitude and/or a high rate of speed for thrill purposes.

Note

Aircraft engaged in drug interdiction operations are granted relief from FAR 91.127(C) provided the tower is aware of the interdiction aircraft whereabouts and intentions and can issue instructions and/or clearances to the DOD aircraft to ensure an acceptable level of safety.

5.1.4 Aircraft Speed

5.1.4.1 FAR 91. To reduce midair collision hazards associated with high aircraft speeds at low altitudes, FAR, Part 91.117, imposes a maximum airspeed limitation of 250 knots indicated airspeed (KIAS) on all aircraft operating below 10,000 feet mean sea level (MSL) in airspace where FAR, Part 91, applies and a maximum of 200 KIAS for aircraft operating in airspace beneath the lateral limits of any terminal control area (TCA). The regulation grants exception for operations that cannot safely be conducted at airspeeds less than the prescribed maximum airspeed. The FAA has authorized the DOD to exceed 250 KIAS below 10,000 feet MSL for certain military requirements.

Note

Aircraft engaged in drug interdiction operations are exempted from the general speed limit of 250 knots below 10,000 feet MSL. However, pilots of aircraft so involved are required to establish and maintain two-way radio communication with the tower prior to entering the class B, C, or D airspace and, unless otherwise authorized by ATC, avoid the traffic patterns for any airport in class B, C, or D airspace.

5.1.4.2 Policy. In accordance with FAA authorization, flight operations below 10,000 feet MSL at an indicated airspeed in excess of 250 knots are authorized under the following conditions:

a. Within restricted areas.

b. Within military operations areas.

c. When operating on DOD/FAA mutually developed and published routes.

d. When operating on DOD-developed and -published VR routes. Such routes shall be established for specific missions and used only by designated units when the provisions of a through c above will not accommodate the required national defense mission. Routes shall be developed and published in accordance with DOD/FAA mutually developed criteria.

e. When operating within large scale exercises or on short-term special missions approved by commanders listed in paragraph 5.1.4.3. Such exercises or missions may be authorized provided that coordination is effected to ensure awareness on the part of the nonparticipating flying public.

f. If the airspeed required or recommended in the aircraft NATOPS manual to maintain safe maneuverability is greater than the maximum speed described in FAR, Part 91.117, the aircraft may be operated at that speed. Where the required or recommended speed is given as a range, the lower part of the speed range consistent with good operating practice should be used. The primary purpose of this provision is to accommodate climbs, descents, and terminal area operations and shall not be used to circumvent the provisions of subparagraphs above. Under no circumstance will this safe maneuverability provision be construed as authorization for individual pilots or mission commanders to conduct other flights below 10,000 feet in excess of 250 knots.

5.1.4.3 Approval Authority. Approval Authority for 5.1.4.2e is as follows: Commandant of the Marine Corps; Commander Naval Air Force, U.S. Pacific Fleet; Commander Naval Air Force, U.S. Atlantic Fleet; Commander, U.S. Marine Forces, Pacific; Commander, U.S. Marine Forces, Atlantic; Chief of Naval Air Training;

b. Performance characteristics of the aircraft permit an en route flight altitude above existing or developing severe storms.

Note

It is not the intent to restrict flights within areas encompassed by or adjacent to a WW area unless storms have actually developed as forecast.

4.6.4 Minimum Fuel Requirements

4.6.4.1 Fuel Planning. All aircraft shall carry sufficient usable fuel, considering all meteorological factors and mission requirements as computed below:

a. If alternate is not required, fuel to fly from takeoff to destination airfield, plus a reserve of 10 percent of planned fuel requirements.

b. If alternate is required, fuel to fly from takeoff to the approach fix serving destination and thence to an alternate airfield, plus a reserve of 10 percent of planned fuel requirements.

c. In no case shall the planned fuel reserve after final landing at destination or alternate airfield, if one is required, be less than that needed for 20 minutes of flight, computed as follows:

(1) Reciprocating engine-driven aircraft — Compute fuel consumption based on maximum endurance operation at normal cruise altitudes.

(2) Turbine-powered fixed-wing aircraft — Compute fuel consumption based on maximum endurance operation at 10,000 feet.

(3) Turbine-powered helicopters — Compute fuel consumption based on operation at planned flight altitude.

d. Minimum fuel reserve requirements for specific model aircraft shall be contained in the appropriate NATOPS manual.

4.6.4.2 In-Flight Refueling. Aircraft shall carry sufficient usable fuel to fly from takeoff point to air refueling control point(s) (ARCP), thence to a suitable recovery field in the event of an unsuccessful refueling attempt. In no case shall the fuel reserve at rendezvous point be less than 10 percent. For multiple in-flight refuelings, the aircraft must have the required reserve at each rendezvous point. After the last in-flight refueling is completed, the fuel reserve required for the remainder of the flight shall be in accordance with paragraph 4.6.4.1.

4.6.4.3 Delays. Any known or expected traffic delays shall be considered "time en route" when computing fuel reserves. If route or altitude assigned by air traffic control causes or will cause planned fuel reserves to be inadequate, the pilot shall inform ATC of the circumstances, and, if unable to obtain a satisfactory altitude or routing, alter destination accordingly.

4.6.5 Weight and Balance Control

4.6.5.1 Requirements. Requirements for aircraft weight and balance control are contained in the current NA-01-1B-40 weight and balance data and N0-01-1B-50 USN aircraft weight and balance control manuals. Maximum operating weights, restrictions, and center-of-gravity limitations are delineated in the applicable NATOPS manual.

4.6.5.2 Responsibility. With the exception of aircraft to be ferried, the responsibility for ensuring safe loading of Class 1A, 1B, and Class II aircraft is assigned to reporting custodians. The responsibility for safe loading of aircraft to be ferried rests with the activity preparing the aircraft for ferry movement.

4.6.5.3 Filing. By the signature on the DD-175, the pilot in command certifies that aircraft weight and center of gravity will be within safe limits at time of takeoff and remain so for the duration of the flight. Additionally, the pilot in command certifies that:

a. A completed weight and balance clearance form (DD 365-4) presented with the DD-175 represents the actual aircraft loading.

b. A completed DD 365-4 representing the actual aircraft loading is on file at the aircraft's home base.

4.6.5.4 Records. DD 365-4 originals filed with a DD-175 shall be retained for a period of 3 months.

4.7 CLOSING OF FLIGHT PLAN

It is the responsibility of the pilot in command/formation leader to ensure that the proper agency is notified of flight termination.

4.7.1 Military Installations. At military installations, the pilot either shall verbally confirm the closing of the flight plan with tower or base operations personnel or deliver a copy of the flight plan form to base operations.

list when filing by radio or telephone. Helicopter pilots engaged in SAR missions, lifting reconnaissance parties, patrols, and outposts during field problems are released from manifest responsibilities when there is no proper agency available with whom a passenger manifest could be deposited.

4.6.2 Weather Briefing

4.6.2.1. General. Pilots are responsible for reviewing and being familiar with weather conditions for the area in which flight is contemplated. Where Naval Meteorology and Oceanography Command (NMOC) services are locally available, weather briefings shall be conducted by a qualified meteorological forecaster. They may be conducted in person or by telephone, autograph, or weathervision. FAA weather briefings obtained from FSS or DUAT services may be used as a supplement to NMOC service briefing. If NMOC services are not locally available, an FAA-approved weather briefing may be substituted.

4.6.2.2 Flight Weather Briefing Form. A DD 175-1, flight weather briefing, shall be completed for all flights to be conducted in IMC. The forecaster shall complete the form for briefings conducted in person and for autographic briefings. It is the pilot's responsibility to complete the form for telephonic or weathervision briefings. For VFR flights using the DD-175, the following certification on the flight plan may be used in lieu of a completed DD 175-1:

Note

Navy and Marine Corps forecasters are required to provide flight weather briefings (DD 175-1 briefs or VFR stamps) within 2 hours of ETD and to assign briefing void times that do not exceed ETD plus one-half hour.

BRIEFING VOID _____ Z, FLIGHT AS PLANNED CAN BE CONDUCTED UNDER VISUAL FLIGHT RULES. VERBAL BRIEFING GIVEN AND HAZARDS EXPLAINED. FOLLOWING SIGMETS ARE KNOWN TO BE CURRENTLY IN EFFECT ALONG PLANNED ROUTE OF FLIGHT.

_____
(Signature of forecaster)

Note

If the intended VFR flight plan includes a mission (i.e., OLIVE BRANCH) or an airfield requiring VFR minimums higher than the basic 1,000-foot ceiling and 3-statute mile visibility, it is the responsibility of the pilot to advise the weather briefer of these higher minimums.

4.6.2.3 Flight Weather Packet. A flight weather packet, including a horizontal weather depiction (HWD) chart, may be requested where Navy or Marine Corps weather services are available. Pilots should routinely allow a minimum of 2 hours for preparation of the packet. Pilots on extended flights, especially those on long overwater routes, are encouraged to avail themselves of that service. Items contained in the flight weather packet are set forth in OCEANCOMINST 3140.14.

4.6.3 Weather Criteria for Filing. Flight plans shall be filed based on all the following:

a. The actual weather at the point of departure at the time of clearance

b. The existing and forecast weather for the entire route of flight

c. Destination and alternate forecasts for a period 1 hour before ETA until 1 hour after ETA.

4.6.3.1 VFR Flight Plans. The pilot in command shall ascertain that actual and forecast weather meets the criteria specified in paragraph 5.2.4 prior to filing a VFR flight plan.

4.6.3.2 IFR Flight Plans. Regardless of weather, IFR flight plans shall be filed and flown whenever practicable as a means of reducing midair collision potential. In any case, forecast meteorological conditions must meet the weather minimum criteria shown in Figure 4-1 for filing IFR flight plans and shall be based on the pilot's best judgment as to the runway that will be in use upon arrival. IFR flight plans may be filed for destination at which the forecasted weather is below the appropriate minimums provided a suitable alternate airfield is forecast to have at least 3,000-foot ceiling and 3-statute mile visibility during the period 1 hour before ETA until 1 hour after ETA.

within the established local flying area and adjacent offshore operating/training areas provided that:

(1) Sufficient information relative to the flight is included to satisfy the needs of the local ATC/FSS facility that guards the flight.

(2) Facility operations maintain cognizance of each flight plan and are responsible for initiating any overdue action or issuing in-flight advisory messages as specified for handling point-to-point flight plan messages in accordance with FAA 7110.10. Termination of local flights at facilities other than the point of departure is authorized only in those cases where local flight plans may be closed out by direct station-to-station communication.

(3) Completed flight schedules are retained in operations files for 3 months.

(4) The flight shall not be conducted in IMC within controlled airspace except as jointly agreed to by the local naval command and the responsible air traffic control agency. When making such agreements, naval commands shall ensure that they do not conflict with policies and directives established by CNO.

(5) When an abbreviated DD-175 is utilized, items 1, 2, 3, 4, 6, 7, 9, 10, 11, 12, 20, 21, 24, and 25 of the flight plan (see FLIP general planning) shall be completed as a minimum. For VFR flights within the local flying area, the term "local" may be entered as "route of flight" (block 13). For day VFR and IFR flights that penetrate or operate within an ADIZ (unless an authorized exception — see FLIP (En Route) IFR-Supplement), the estimated time and point of penetration(s) shall be entered in the "remarks" (block 12).

c. An FAA flight plan, FAA 7233-1, may be filed in lieu of a DD-175 at airfields in the United States at which a military operations department is not located.

d. An ICAO flight plan or military version thereof is used when applicable for flights conducted in international airspace in accordance with ICAO rules and procedures. For flights that originate in the United States and are conducted in accordance with ICAO rules and procedures, it is not intended that both an ICAO flight plan and DD-175 be submitted. Base operations shall specify the form desired in order that flight plan information may be passed to the appropriate ATC/FSS.

e. The flight plan form specified by the local authorities shall be used for flights originating at points of departure outside of the United States.

4.4.4.6 Shore-to-Ship and Ship-to-Shore Operations. For shore-to-ship and ship-to-shore operations, the following procedures apply:

a. Prior to flight from a shore activity to a ship operating in offshore areas when a landing aboard the ship is intended, the pilot in command shall file a flight plan. For flights conducted in IMC, a DD-175 or daily flight schedule with approved stereo (ARTCC computer stored)/canned flight plan code shall be filed. Flights conducted under VFR may use an abbreviated DD-175 or daily schedule.

b. Flight plans must be filed when flights originating from offshore operating areas will penetrate controlled airspace or terminate at shore activities. Ships shall relay flight plans to appropriate ATC facilities in a timely manner and pilots shall confirm their flight plans with an appropriate ATC facility ashore as soon as practicable.

c. Timely handling of flight movement information for each shore/ship operation is essential.

d. Flight suspense for SAR purposes becomes the responsibility of the destination activity after acknowledging receipt of a flight plan.

e. Procedures for flights penetrating or operating within a coastal or domestic ADIZ or defense early warning identification zone (DEWIZ) are prescribed in FLIP (En Route) IFR-Supplements.

4.4.4.7 Stopover Flights Within the United States. Naval aviators are authorized to utilize one DD 175 to plan flights involving en route stops, subject to compliance with the following procedures and limitations:

a. The flight plan (DD 175) shall be prepared in accordance with the applicable instructions contained in the DOD FLIP (planning).

b. NOTAM and weather briefing shall be obtained at point of origin for the entire route of flight. The weather information entered on the DD-175-1 shall clearly indicate the forecast weather (en route) for each leg of the flight, each destination, and each alternate (if required). Separate DD 175-1's may be

b. A copilot qualified to perform all the assist functions required for the flight conditions and mission. If passengers are embarked, the copilot shall be qualified in model.

c. Other flightcrew necessary for the safe conduct of the flight.

4.2.3 Helicopters Not Requiring a Copilot. For helicopters that are configured with either dual- or single-flight controls but do not require a copilot, the minimum crew requirements will be specified in the appropriate NATOPS manual. If a lookout is required, the lookout will be capable of performing internal communication and all assist functions required for the mission. The designation of the pilot in command shall be pilot qualified in model (PQM).

4.2.4 Use of Lookouts. Use of a qualified lookout in lieu of a copilot for those aircraft specified in paragraph 4.2.3 shall be limited to flights conducted under VMC.

4.2.5 Rescue Helicopters Operating Over Water. Any naval helicopter that is assigned the primary mission to operate as a rescue vehicle over water shall have as a member of its crew one air crewman who is completely outfitted for water entry as required in paragraph 8.2.1.2 and has completed an approved CNO/CMC rescue swimmers school.

Note

Where SAR/plane guard is briefed as a primary mission, or when it becomes the primary mission, the rescue air crewman shall be prepared for immediate water entry.

4.3 FLIGHT PLANNING

4.3.1 Preflight Planning. Before commencing a flight, the pilot in command shall be familiar with all available information appropriate to the intended operation. Such information should include but is not limited to available weather reports and forecasts, NOTAMs, fuel requirements, alternatives available if the flight cannot be completed as planned, and any anticipated traffic delays.

4.4 AUTHORIZED AIRFIELDS

4.4.1 Aircraft Operations

4.4.1.1 General. The intent of this section is to encourage the use of military airfields by Navy and Marine Corps aircraft unless a requirement exists to use a civil airfield. Pilots shall not be cleared for airfields other than those listed in the Aerodrome/Facility Directory of the current DOD FLIP unless such flights are necessary for the accomplishment of a mission assigned by higher authority. The pilot in command is responsible for ensuring that airfield facilities, servicing, and security are adequate for the type of aircraft involved.

4.4.1.2 Exceptions. All naval aircraft operating in the continental United States are prohibited from landing at or taking off from civil airfields identified as such in the FLIP Aerodrome/Facility Directory. Exceptions to this prohibition are as follows:

a. Civil airfields on which military units operate aircraft.

b. Flights requiring a weather alternate may use civil airfields when military airfields are not available.

c. Flights that conduct official business at or near a civil airfield. Written orders are not required.

d. Flights required for procurement, acceptance, modification, test, and delivery of aircraft. Ferry flights are included in this category to allow necessary flexibility to accomplish the ferry mission.

e. Flights necessary for the accomplishment of a unit's mission, providing prior coordination has been effected with the civil airfield authorities and the type commander has granted waivers to permit the use of the airfield.

f. Transport, turboprop training command aircraft, patrol class aircraft, and helicopters.

g. Civil airfields may be used for instrument-approach and low-approach training.

4.4.1.3 Closed Airfields. All naval aircraft are prohibited from taking off or landing at closed airfields except in the case of an emergency or under the following conditions. A takeoff and/or a landing may be conducted at a closed airfield when the tower and crash crew are unmanned with the authorization of the commanding officer of the airfield concerned and with the prior or concurrent approval of the aircraft's reporting custodian.

4.4.2 Helicopter and VSTOL/STOL Landing Areas. Helicopter and VSTOL/STOL aircraft are authorized to land at other than airfield locations (such as fields, highways, and parks), provided:

jurisdiction will inform the final addressee of the final appellate action taken in each general and special court-martial case involving a violation of flying regulations.

c. The final addressee for flight violation processing is CNO (N885F).

3.8.2 FAA Reports and Cooperation. When requested to do so by FAA, commands:

a. Shall not release the names of the aircrew; names are to be released only by CNO.

b. May furnish only factual information (excluding aircrew names) that would normally be available to air traffic facilities; this response shall not contain any conjectures, assumptions, or hearsay.

Note

Each command shall ensure that all attached/assigned aircrew and air operations personnel understand that:

(1) They may make oral or written statements to FAA personnel, but that such a statement is voluntary and may be used against the individual making the statement.

(2) Reports required by Part 91 of the FARs are mandatory; they are not included in the foregoing policy.

3.8.3 Applicability of Flying Regulations Other Than Naval. Pilots flying naval aircraft are responsible for compliance with flying regulations of other agencies, military or civil, only to the extent specifically provided by OPNAV directives (see paragraphs 1.2.4 and 1.2.5).

3.8.4 Alleged Air Defense Identification Zone Violations. Commanders receiving a report of an alleged ADIZ violation will investigate the report promptly. Results of such an investigation will be forwarded to the immediate superior. Reports shall contain the following:

a. Conclusions

b. The action(s) taken or recommended to prevent a recurrence

c. The nature of any disciplinary action taken.

3.8.5 Flight Personnel Training/Qualification Jacket Entry/Aviators Flight Log Book Entry. An entry of a violation into Flight Personnel Training/Qualification Jacket and Aviators Flight Log Book will be made at the sole direction of CNO and will be made in accordance with paragraph 10.5.2 and Appendix A. Care shall be exercised to avoid the use of information from aircraft mishap board members, mishap reports, and endorsements, including the COMNAVSAFECEN endorsement, as a basis for the entries.

3.8.6 Incident Reports

a. Pilots in command and local commanders will ensure that deviations from control and separation requirements specified in paragraph 6.4, which result because of emergency or operational necessity, are reported to FAA immediately.

b. Incident reports (FAA 8020-11) are sent from FAA to the Department of the Navy Representatives (NAVREPs). The NAVREPs shall forward the reports to the appropriate commands for information.

c. Subsequent FAA investigation of flight incidents may reveal that the deviation involved a violation of the FARs. If a violation is found, the incident is further processed as an alleged flight violation and FAA's investigation is sent to CNO for processing in accordance with paragraph 3.8.1. Because of the lengthy FAA investigative process, as much as a 1-year delay may occur before the responsible naval commands receive notification of an alleged flight violation. Because of such delays, commands are advised to make and retain statements concerning incidents in the event the incidents are subsequently processed as flight violations.

g. Failure to meet mission/planning milestone

h. Absence of communication.

3.6.3 Enhancing Aircrew Coordination. To enhance aircrew coordination awareness and standardization, the NATOPS model manager shall include but not be limited to the following items in Section/Part IX of the individual aircraft NATOPS manuals:

a. Table of contents

b. Introduction

c. Descriptions of all aircrew positions

d. Specific aircrew responsibilities by flight phase

(1) Flight planning

(2) Mission planning

(3) Preflight

(4) Start

(5) Taxi

(6) Takeoff

(7) Departure

(8) En route

(9) Instrument procedures

(10) Missions

(11) Return

(12) Descent/approach

(13) Landing

(14) Postlanding/taxi/shutdown

(15) Postflight

(16) Debrief.

e. Special considerations

(1) Functional checkflights

(2) Formation flights

(3) Training

(4) Search and rescue

(5) Alert aircraft.

f. Emergencies.

3.7 FUNCTIONAL CHECKFLIGHTS

The requirements for functional checkflights are stated in OPNAVINST 4790.2. Commanding officers shall ensure compliance with the following.

3.7.1 Crew Composition. Functional checkflights shall be conducted with the minimum crew required for safe flight. All flight personnel shall be fully qualified in accordance with this instruction and the applicable NATOPS manual. Appropriate maintenance quality assurance and project specialist personnel required to accomplish the functional check may be utilized. Passengers shall not be carried. The pilot in command shall be designated in writing by the commanding officer as a functional check pilot for either a full-system check or the partial system(s) to be checked.

3.7.2 Weather Criteria. Functional checkflights should be conducted during daylight hours within the local flying area in VMC and under VFR. If necessary to accomplish the assigned mission, unit commanders may authorize checkflights under conditions other than the above if in their opinion the flight can be conducted with an acceptable margin of safety under the existing conditions. The authority shall not be delegated. Those portions of the flights that are considered critical shall be conducted in the vicinity of a suitable landing area.

3.8 REPORTING AND RECORDING OF DEVIATIONS AND VIOLATIONS OF FLYING REGULATIONS AND MISHAP INFORMATION

This section details the procedures for alleged violations of service or Federal flying regulations. Generally, commanders or commanding officers will receive notification of an alleged deviation by a member of their command via a copy of FAA 8020-11, Federal Aviation Administration Incident Report. Paragraph 3.8.6 delineates the responsibility of the command for flight incidents. Reports of alleged violations received from the Federal Aviation Administration will be forwarded to CNO (N885F) and will be processed as a major infraction. Major infractions are those that have general public, Congressional, or service interest (i.e., any infraction

to give flight demonstrations of aircraft intended for the United States Government.

3.5 COMMAND

A naval aircraft or formation of naval aircraft shall be flown under the command of a pilot in command, mission commander, or formation leader, as appropriate, and so designated by the reporting custodian or higher authority. The status of each individual participating in the mission or formation shall be clearly briefed and understood prior to takeoff and must be indicated as required by DOD FLIP General Planning. When a flight schedule is published, the pilot in command, mission commander, or formation leader shall be specifically designated for each aircraft or formation, as appropriate. Reporting custodians shall establish minimum requirements of initial qualification and requalifications for each model aircraft in their custody and for each flight phase and/or mission normal to the aircraft models (i.e., day solo, night solo, functional check, FCLP, air combat maneuvers (ACM), night combat air patrol (CAP), intercepts, airborne early warning (AEW), barriers, etc.). They shall be guided by the requirements of this instruction where applicable and by appropriate NATOPS manuals. Flight personnel meeting those requirements may be considered qualified in model and phase and are eligible for designation as pilot in command, mission commander, or formation leader for a specific mission.

3.5.1 Pilot in Command. Pilot in command refers to the pilot of an individual aircraft. The pilot in command is responsible for the safe, orderly flight of the aircraft and well-being of the crew. The pilot in command may also be the mission commander or formation leader when so designated. Pilot in command should not be confused with the various qualifications defined in Chapter 12. If there is no NATOPS manual for a particular model aircraft or if an existing manual fails to set forth specific initial qualifications and currency requirements, a pilot shall not be designated as pilot in command unless the pilot has made at least two takeoffs and landings and logged 5 hours of pilot time in the same model aircraft within the preceding 90 days. Also, lacking NATOPS guidance for a specific aircraft, 10 hours first pilot time in model is required for initial qualification. Pilots meeting the criteria may be considered qualified in model and phase and are then eligible for designation as pilot in command. In the absence of direct orders from higher authority cognizant of the mission, responsibility for starting or continuing a mission with respect to weather or any other condition affecting the safety of the aircraft rests with the pilot in command. The authority and responsibility of the pilot in command shall not be transferred during flight. It shall not be transferred to another individual except as required by emergency, operational necessity, or as directed by the commanding officer of the unit to which the aircraft is attached. The authority and responsibility of a pilot in command is independent of rank or seniority in relation to other persons participating in the mission or flight except for the following.

3.5.1.1 Officer in Tactical Command Embarked. A wing, group, or squadron commander, if embarked on a mission involving aircraft of their command, retains full authority and responsibility regarding command, including the mission in which participating.

3.5.1.2 Flag or General Officer Embarked. The pilot in command of an aircraft with a flag or general officer eligible for command at sea or in the field embarked as a passenger shall be subject to the orders of such flag or general officer in accordance with U.S. Navy Regulations. When such an embarked passenger exercises authority to command the aircraft, that passenger thereby assumes full responsibility for the safe and orderly conduct of the flight. The embarked passenger shall give due consideration to the judgment of the pilot in command regarding items of flight safety such as hazardous weather and aircraft/crew limitations. Flying rule violations, accident reports, and any other actions arising out of the flight will be referred to the embarked passenger as the responsible commander of the aircraft.

Note

The provisions of paragraphs 3.5.1.1 and 3.5.1.2 shall not be used to circumvent normal NATOPS qualification procedures if the officer desires to physically pilot the aircraft. Flights that require a NATOPS-qualified crew shall not be physically piloted by any individual not so qualified; however, the flight may be directed by an officer in tactical command embarked who is not NATOPS qualified.

3.5.1.3 Flight Control Station. The pilot in command shall occupy a flight control station during critical phases of flight (i.e., takeoff, landing, formation flight, functional checkflight (FCF), degraded aircraft performance regimes, etc.).

3.5.2 Formation Leader. A formation of two or more naval aircraft shall be under the direction of a formation leader who is authorized to pilot naval aircraft. The formation leader may also be the mission commander when so designated. The status of each member of the formation shall be clearly briefed and understood prior to takeoff. The formation leader is

contain specific verbiage on what is being approved and waived. For all other NAPTP and NAWSTP waivers, Chapter 8 applies.

Note

Requests for authorization required by the following subparagraphs shall be forwarded sufficiently in advance to allow for staffing through the chain of command prior to the proposed flight.

a. Orientation and indoctrination flights for members of Congress or their staffs require the Chief of Legislative Affairs' eligibility verification.

b. Orientation and indoctrination flights for members of news media and entertainment personalities or public figures where the resulting presentation or publicity will receive national or international distribution or interest require prior approval of the Chief of Information (except flights approved under paragraph 3.2.4e).

c. Reporting custodians or higher authority for military personnel on active duty or on active duty for training only for flights in aircraft not equipped with ejection seats and/or personal oxygen systems (excluding emergency oxygen systems).

d. The Commander, Naval Air Systems Command for flights in aircraft under COMNAVAIRSYSCOM RDT&E controlling custody, those aircraft in bailment status and retained under COMNAVAIRSYSCOM representatives controlling custody, those aircraft that have been ordered but not accepted by the Navy from a manufacturer, and those aircraft under a Navy single-manager control but not allocated to the Navy or Marine Corps for use. In the latter case, written approval must be obtained from the Armed Service to which the aircraft is allocated.

e. CNATRA for all news media personnel to be given local orientation flights by the U.S. Navy Flight Demonstration Squadron (Blue Angels). He shall also be the approving authority for local orientation flights for contract flight instructors, faculty members, NROTC students, and non-NROTC senior college students participating in the NROTC Aviation Indoctrination Program.

f. Appropriate COMFAIR of flag rank; Marine aircraft wing commanders; the Chief of Naval Air Training; Commander, Naval Air Reserve Forces; and their seniors in the chain of command for FAA Air Traffic Control specialists within their own FAA region of responsibility. Such flights shall be coordinated by the appropriate regional Navy Representative, FAA. Further, FAA flight operations personnel may be authorized to fly on local flights when engaged in the evaluation/examination of military personnel for civil pilot, navigator, or flight engineer certificates. CNATRA may delegate to reporting custodians the authority to approve requests for flight examiner personnel to fly on local flights when engaged in the evaluation or examination of Naval Air Training Command (NATRACOM) military personnel. In no case may such an examiner be permitted to pilot an aircraft without an assigned Navy or Marine Corps pilot in command who shall exercise all responsibility of command set forth in this instruction.

g. CNATRA or type commander (TYCOM) for recruiting candidates and for influential persons who have potential to directly influence local recruiting efforts. Commander, Navy Recruiting Command shall coordinate with appropriate authority for approval. Provisions of paragraph 3.2.1f apply. A copy of approval letters shall be forwarded to CNO (N889J), CNET (T-25), CNATRA (N-33), and COMNAVSAFECEN (Code 11). Flights in high-performance aircraft are not authorized.

h. Authority is delineated in OPNAVINST 4630.25 concerning specific procedures for approval of flights requested for diverse groups such as ROTC students, NJROTC students, senior scout program members, and the Civil Air Patrol. Any flights so approved shall be subject to the provisions of paragraphs 3.2.2 and 3.2.3.

i. Task force commanders of flag rank within the numbered fleets or the fleet commander for foreign military personnel authorized under paragraph 3.2.1g.

3.3 FLIGHT DEMONSTRATIONS AND STATIC EXHIBITS

3.3.1 Naval Aircraft Participation. Participation of naval aircraft, other than the scheduled appearance of the flight demonstration squadron, in any flight or airborne display is discouraged and should be planned only in the most exceptional and carefully considered situations (e.g., occasional flights at unique aviation-related events and station open houses; however, does not include routine changes of command, sporting events, etc.). Static displays by naval aircraft at aviation events are encouraged within the limits of available resources. The approving command shall ensure that a safe, professional and

requirements set forth in paragraph 8.4.2 of this instruction if performing a crew duty or observing aircraft or crew performance. Contractor flightcrews governed by NAVAIRINST 3710.1 shall meet the requirements of that instruction.

3.1.5.3 Civilian Law Enforcement Officials (LEO). Embarkation of civilian LEOs is authorized for helicopters and nonejection seat aircraft. SECNAVINST 5820.7 provides specific guidance for authorized missions. Authority to approve flights for LEO personnel and responsibility for establishing operational procedures is delegated to Commandant of the Marine Corps; fleet commanders in chief; the Chief of Naval Education and Training; Commander, Naval Air Systems Command; and Commander, Naval Reserve Force for aircraft under their respective control. Authority to approve flights may be delegated to numbered fleet commanders and type commanders. Flight requests for high-performance, ejection seat aircraft shall be forwarded to CNO or CMC for approval.

Note

LEO personnel authorized in accordance with this paragraph should comply with the acromedical and survival training requirements set forth in paragraph 8.4 of this instruction when time and facilities permit. The flight approval authority is authorized to waive paragraph 8.4 requirements. CNO (N88) shall be an information addressee on all such waiver requests and approvals.

3.2 ORIENTATION AND INDOCTRINATION FLIGHTS

This section establishes policy and procedures for orientation and indoctrination flights (as defined in paragraph 1.3) in naval aircraft and prescribes the authority for approving such flights.

3.2.1 Authorized Persons. Persons who may be authorized orientation and indoctrination flights as passengers/selected passengers include:

a. Military personnel on active duty and DOD employees when such flights would materially improve job performances and be in the best interest of the Navy and/or Marine Corps.

b. FAA personnel when required for purposes as specified in paragraphs 1.3.50 and 3.2.4f.

c. Foreign personnel, either military or civilian, who require orientation and indoctrination flights in military aircraft for scientific research, development, test, and evaluation (RDT&E) purposes and to support the military assistance program (MAP)/foreign military sales (FMS). Prior to approval of flights by foreign nationals involving access to classified information, permission for the disclosure of such information shall be obtained from the Director of Naval Intelligence in accordance with SECNAVINST 5510.34.

d. Persons who because of their group affiliation are authorized orientation and indoctrination flights by separate directives (i.e., senior scout program members, Navy League Sea Cadets, Civil Air Patrol, Reserve Officer Training Corps/Naval Reserve Junior Officer Training Corps (ROTC/NJROTC) students, and other such groups as may be designated by CNO).

e. Influential persons who because of their position can help public awareness, understanding, and appreciation of the Navy and/or Marine Corps and their missions (i.e., members of the Congress and persons affiliated with the news media and entertainment personalities). It is not intended that flights of this nature be scheduled in an effort to engender good will or to be tendered as a reward for unusual service to the Navy or Marine Corps.

f. Candidates for programs leading to duty under flight orders when necessary for determining applicant suitability.

g. Foreign military personnel of nations participating in and during the course of bilateral or multinational operations or exercises. Flights may be by shore-based aircraft or may originate and/or terminate onboard ship. Disclosure authorization will be in accordance with current directives.

3.2.2 Flight Limitations

a. Only highly qualified flight personnel shall be selected to conduct orientation and indoctrination flights.

b. All flights shall be local flights terminating at the point of origin with no intermediate stops. Flights outside the local flying area are approved if the specific mission of the orientation and indoctrination flight cannot be accomplished within the local flying area. FAA personnel may be enplaned on a noninterference basis for other than local flights within their own FAA region.

person shall be carried in a taxiing aircraft as a passenger unless such person is authorized to fly in it or has been authorized by competent authority to be embarked therein.

b. Fleet Commanders in Chief; Commander in Chief, U.S. Naval Forces, Europe; and Chief of Naval Air Training may authorize air transportation via helicopter or carrier onboard delivery (COD) aircraft for civilian guests and other designated personnel not otherwise qualified for Government air transportation. Their authority may be delegated to numbered fleet commanders and type commanders and is granted for the specific purpose of facilitating embarkation/debarkation of these selected individuals when ships are at sea. It shall not be extended to include flights of convenience for the individual(s) concerned. Due consideration shall be given to the age and physiological characteristics of the individuals, particularly when catapult launchings or arrested landings are involved. (See paragraph 8.4.2 regarding aeromedical and survival training requirements for passengers.) Night overwater COD and helicopter passenger flights to/from ships are prohibited except in cases of operational necessity. This does not preclude troop movement in support of amphibious exercises (operations) or special operations missions.

c. The pilots in command/mission commanders of a naval aircraft (while absent from home unit) may authorize air transportation for personnel and/or equipment not otherwise qualified for Government air transportation (i.e., civilian physicians, paramedic teams, sheriff department personnel, park rangers, search dogs, medical equipment, etc.) when required for the successful prosecution of a search and rescue (SAR), medical emergency evacuation (MEDEVAC), or disaster relief mission. This authority shall only be exercised when all practical means of obtaining authorization from competent authority in accordance with applicable directives (OPNAVINST 4630.25 and NAVSUP Publication 505) have proven unsuccessful or unavailable. Appropriate authority shall be notified of such air transportation as soon as practicable.

3.1.1.11 Flight Training. Flight training in Navy or Marine aircraft shall not be given to any individual without specific authorization of CNO or CMC.

3.1.1.12 Aircraft of Other Services. Naval aviators may fly aircraft of another service, provided the other service has no objection.

3.1.2 Nonessential Flights. The use of aircraft for nonessential flights shall not be authorized. Any flight open to misinterpretation by the public shall be avoided. Examples of flights that are considered nonessential are as follows:

a. Flights of a routine business nature for which commercial or other military transportation could be more economically substituted.

b. Flights for any officer or group of officers, the sole purpose of which is the convenience and/or prestige of the officers concerned and not the performance of official duties or accomplishment of bona fide training.

c. Repeated flights to the hometown area of flight personnel concerned.

d. Flights coinciding with major sports events or civic celebrations.

3.1.3 Personnel Authorized To Pilot Naval Aircraft. When qualified in accordance with current directives, the following personnel may pilot Navy and Marine Corps aircraft.

Note

Requests for authorization required by the following subparagraphs shall be forwarded sufficiently in advance to allow for staffing through the chain of command prior to the proposed flight.

3.1.3.1 Regular and Reserve Personnel. Regular and Reserve personnel on active duty under appropriate orders to duty in a flying status including:

a. Naval aviators of the Navy and Marine Corps

b. Coast Guard aviators and aviation pilots

c. Students undergoing authorized courses of instruction in flight training

d. Rated pilots of the U.S. Air Force and U.S. Air Force Reserve

e. Army aviators

f. Rated pilots of the Air National Guard and National Guard.

discrepancies shall be forwarded by the evaluator to the appropriate type commander via the unit commander and normal chain of command.

e. While this instruction and the individual NATOPS publications establish standards for grading individual performance, they do not relieve the NATOPS evaluator or instructor from using sound judgment based upon knowledge and experience. The NATOPS evaluation flight is intended to measure performance with regard to knowledge of and adherence to prescribed procedures. Any tendency to extend the evaluation into the areas of pilot proficiency or weapons readiness must be avoided.

2.4.5 Ground Evaluation. Prior to commencing the evaluation flight, an evaluee must achieve a minimum grade of Qualified on the open book and closed book examinations. The oral examination is also part of the ground evaluation, but may be conducted as part of the flight evaluation. To assure a degree of standardization between units, the model manager shall prepare and maintain a bank of questions and answers for use by unit NATOPS instructors in preparing the written examinations. The areas to be evaluated in the ground phase shall be delineated in the individual aircraft model NATOPS manual.

a. Examinations — The maximum and minimum number of questions and the time limits for the written examinations shall be specified in the manual. The oral examinations may be conducted prior to or as part of the flight evaluation and should be based on selected general areas outlined in the NATOPS manual.

b. Grading Instructions — Examination grades shall be computed on a 4.00 scale and recorded in the appropriate column of the NATOPS Evaluation Report OPNAV 3710/7 (4-90).

(1) Open Book Examination — To obtain a grade of Qualified, an evaluee must obtain a minimum score of 3.5.

(2) Closed Book Examination — To obtain a grade of Qualified, an evaluee must obtain a minimum score of 3.3.

(3) Oral Examination — Questions may be taken from the NATOPS manual, question banks, or drawn from the experience of the instructor/evaluator. Such questions should be direct and positive and should in no way be opinionated. A grade of Qualified or Unqualified shall be assigned.

2.4.6 Evaluation Flight. The areas, subareas, critical areas, and critical subareas of an evaluation flight shall be specified in the NATOPS manual. It may be conducted on any operational or training flight or in an OFT. The following procedures shall be used in determining the final grade.

a. A grade of Unqualified in any critical area or critical subarea will result in an overall grade of Unqualified for the flight.

b. Evaluation flight (or area) grades shall be determined by assigning the following — UQ (Unqualified), CQ (Conditionally Qualified), or Q (Qualified) for each subarea. All areas graded less than Q shall be justified in the evaluator's remarks. An overall grade of less than Q for the flight shall be justified in the evaluator's remarks.

c. Evaluation flights resulting in an overall grade of less than Q shall contain the unit commander's remarks concerning the qualifications of the NA/NFO evaluated.

d. Evaluation worksheets and kneepad worksheets contained in the applicable NATOPS manual shall be used during the evaluation flight.

2.4.7 Documentation/Record. The NATOPS evaluation report, OPNAV 3710/7 (4-90) (Figure 2-2), shall be completed for each evaluation conducted and forwarded to the evaluee's commanding officer only. The report shall be filed in the individual's flight training jacket. An entry shall be made in the pilot/NFO/enlisted air crewmen flight logbook under "Qualifications and Achievements" as follows:

"QUALIFICATION"

"NATOPS EVAL." (AIRCRAFT MODEL)

"DATE"

(CREW POSIT.) (DATE)

"SIGNATURE"

(Authenticating signature) (Unit that administered evaluation)

e. A list of conference advance change items.

f. For each new publication, a recommended distribution list for that publication. Include each command, its appropriate attention code(s), and the desired quantity for each code.

2.3.10 Disposition of the Conference Record

a. As soon as possible after the conference, the model manager shall prepare and forward the conference record to the cognizant command and to the organization tasked with preparing the reproducible copy. Additional copies of the conference record shall be forwarded to all concerned advisory group members, major aviation commands employing the aircraft, COMNAVAIRSYSCOM (Code AIR 8H), COMNAVSAFECEN (Code 10), COMNAVAIRWARCENACDIV, NAVTACSUPPACT (Code 60), and others as appropriate. Note that NAVTACSUPPACT will receive two copies when preparing the reproducible copy.

b. The marked-up manual(s) and the original record of approved changes shall be delivered to the contractor or forwarded to NAVTACSUPPACT as appropriate.

c. No further changes or additions may be submitted after the approved record of changes has been delivered. Critical procedures or technical information that was not available at the time of the conference may be submitted only with the expressed approval of NAVTACSUPPACT.

d. The program manager shall prepare a list of open action items requiring further approval and submit them to the command having action or approval authority. Those items shall be submitted by separate correspondence and shall also be listed in the conference report. The program manager shall forward the results of the open action items to NAVTACSUPPACT and, when applicable, to the prime contractor.

2.3.11 Implementation of Approved Agenda Items. The agenda items approved at the review conference are approved for use but are not mandatory upon receipt of the conference record. Use of approved agenda items prior to receipt of the printed change or revision is at the discretion of the commanding officer.

2.3.12 Final Prepublication Review. The contractor or NAVTACSUPPACT will incorporate the conference-approved changes into the reproducible copy (repro) for the publication(s) from which the printer's negatives will be made. Following incorporation, the model manager and/or his/her designated representatives shall review the repro at the production site to ensure that the change material was incorporated into the publication(s) in the manner intended by the conference. The final prepublication review shall be completed in an expeditious manner.

2.4 NATOPS EVALUATION PROCEDURES

2.4.1 General. The standard operating procedures prescribed in NATOPS manuals represent the optimum methods of operating various aircraft and related equipment. The NATOPS evaluation is intended to evaluate individual and unit compliance by observing and grading adherence to NATOPS procedures.

2.4.2 Definitions. The following definitions shall apply to the NATOPS evaluation program:

a. NATOPS Evaluation — An evaluation of individual pilot or crewmember standardization, consisting of an open book examination, a closed book examination, oral examination, and an evaluation flight.

b. Qualified — That degree of standardization demonstrated by a very reliable flight crewmember who has a good knowledge of standard operating procedures and thorough understanding of aircraft capabilities and limitations.

c. Conditionally Qualified — That degree of standardization demonstrated by a flight crewmember who meets the minimum acceptable standards. The individual is considered safe enough to fly as pilot in command or to perform normal duties without supervision, but more practice is needed to become Qualified.

d. Unqualified — That degree of standardization demonstrated by a flight crewmember who fails to meet minimum acceptable criteria. The individual should receive supervised instruction until the individual has achieved a grade of Qualified or Conditionally Qualified.

e. Area — A routine of preflight, flight, or postflight.

f. Subarea — A performance subdivision within an area that is observed and evaluated during an evaluation flight.

```
RMKS/1. THIS IS INTERIM CHANGE NUMBER ___ TO REF A, AND INTERIM CHANGE NUMBER ___ TO REF B. (As required)

2  CHANGE REF A, (Identify PART/SECTION/CHAPTER, PAGE, FIGURE/PARAGRAPH/SENTENCE beginning, LINE NUMBER
   etc.), AS FOLLOWS:
   A. DELETE: (Always indicate material to be deleted.  If no deletion is necessary, indicate NA).
   B. ADD: (Indicate new or changed material.  If no new material is necessary, indicate by NA).

3. CHANGE REF B..... (As required)

4. (Enter remarks or comments necessary to explain the changes.  If no remarks are necessary, omit
   paragraph.)  //



*** Show message routing code(s), or "JJJ" when required but not known.  Most NATOPS Advisory Group
    routing codes are shown in the Urgent Change Recommendation/Interim Change section of the NATOPS
    and AIR TACMAN Combined Status Report and/or in subject publication.

  * All Advisory Group Members concerned with subject aircraft/equipment.

  # Include additional references as necessary.
```

Figure 2-7. Sample GENADMIN Format NATOPS Interim Change Message (Sheet 2 of 2)

2.3.4 Conference Location. Review conferences are normally held at the aircraft manufacturer's facility for all in-production aircraft. In the interest of conserving temporary additional duty (TAD) funds, conferences for out-of-production aircraft should be scheduled at a Navy facility whenever practicable, preferably at the model manager's home station.

2.3.5 Convening Announcement

a. When the review conference date and location have been confirmed and appropriate funding has been identified, the cognizant command shall originate the convening announcement. Announcement of the review conference shall be by message to all major aviation commands employing the aircraft, NAVTACSUPPACT, COMNAVAIRSYSCOM, COMNAVSAFECEN, COMNAVAIRWARCENACDIV, NAVAIRTECHSERVFAC, Defense Plant Representative Office (DPRO) at the manufacturer's facility, or commanding officer of the hosting activity with information copy to CNO. It shall include dates and location of the conference; request for the names, grades, service numbers, billeting requirements, and security clearances of the attendees; and address and deadline date for submission of agenda items. Convening announcements should precede the conference date by at least 45 days.

b. Upon receipt of the convening announcement, advisory group NATOPS coordinators shall inform units within their commands as appropriate. Review conference announcements and requests for agenda items should receive wide dissemination within the NATOPS organization. A representative from each applicable advisory group command is expected to attend the conference. Unless waived, a CNO NATOPS coordinator is required at all NATOPS conferences.

c. NATOPS conference representatives shall be well qualified and authorized to speak for the command/squadrons that they represent in all matters pertaining to NATOPS.

2.3.6 Conference Agenda. Agenda items shall be received by the model manager no later than 30 days prior to the convening date. Proposed changes should be submitted to the program manager on magnetic media using the NAVTACSUPPACT Changes Program Software, if available. The program manager shall compile and distribute the conference agenda no later than 20 days prior to the convening date. Unless waived by NAVTACSUPPACT, program managers shall use the NAVTACSUPPACT Changes Program Software to compile the conference agenda. Distribution shall include all addressees on the convening announcement and others as considered appropriate. The program manager should inform attendees of the billeting arrangements. Agenda items received after the deadline shall be retained by the model manager until the conference and be submitted to the conference at the discretion of the program manager and the CNO representative.

2.3.7 Preliminary Conferences. NATOPS coordinators and program managers should consider utilizing preliminary conference (s) in advance of their main review conferences. Preconferences may be necessary

2.2.6 Interim Change Messages. The issuance of interim change messages (with the exception of advance changes) shall be complete in itself and should not require the user to refer to another source for the approved text. Interim change messages shall be in the format of Figure 2-7, with copies to all commands listed, except when a command has no interest in the changed publication. Advisory group members are responsible for readdressal of interim change messages to their subordinate commands. Use of COMNAVSAFECEN collective address designator (CAD) message addresses (i.e., ALL TOMCAT AIRCRAFT ACTIVITIES) is authorized for the issuance of NATOPS interim changes.

2.2.7 Distribution of Changes

a. Revisions and changes are distributed in printed form to all organizations that are on automatic distribution for those publications.

b. Interim changes are issued in the following ways:

(1) By priority message to major aviation commands and other addressees when urgency so warrants. The major aviation commands shall immediately readdress and redistribute the priority message to appropriate subordinate commands.

(2) In printed form to all holders of the manual; the changes may be replacement pages, cutouts, or pen entries.

2.2.8 Incorporation of Changes

a. Changes to manuals shall be inserted immediately and the superseded pages destroyed.

b. Interim changes may be entered as replacement pages or as pen changes to the existing pages. Interim changes shall be recorded on the interim change summary page in the front of the manual.

2.3 NATOPS REVIEW CONFERENCE PROCEDURES

2.3.1 General. The effectiveness of the NATOPS program is largely dependent upon frequent review and updating of NATOPS manuals to ensure that they reflect current procedures and accurate technical information. The formal NATOPS review conference is the primary means of carrying out this phase of the program. Correspondence reviews of NATOPS publications, in lieu of formal NATOPS review conferences, are not within the intent of this chapter and shall only be authorized by waiver from the CNO NATOPS coordinator. Procedures set forth in this chapter are intended to ensure that maximum benefit is realized from these conferences.

2.3.2 Responsibility. The responsibility for scheduling, convening, and conducting a NATOPS review conference rests with the appropriate cognizant command. In performing those functions, the cognizant command is assisted by the model manager and NAVTACSUPPACT.

2.3.3 Scheduling

a. Close coordination with NAVTACSUPPACT is essential in scheduling NATOPS review conferences. The determination as to the need for a conference shall be made by the cognizant command, based on recommendations from the model manager and NAVTACSUPPACT. Conferences should normally be held biennially; however, consideration should be given to the following:

(1) The number and importance of routine change recommendations.

(2) The number of interim changes issued since the manual's latest revision or change was issued. A large number of interim changes outstanding may indicate that an overall program review is necessary.

(3) An abnormal increase in the aircraft accident rate may indicate that training and operating procedures should be updated and further standardized.

(4) Major aircraft modifications usually require detailed description and the incorporation of new or modified procedures.

(5) Assignment of new missions or changes to the basic mission.

b. Once the decision to convene a conference has been made, the cognizant command or model manager shall so inform NAVTACSUPPACT by informal means, and the CNO NATOPS coordinator shall:

(1) Determine if the necessary funding and support are available at Naval Air Technical Service Facility (NAVAIRTECHSERVFAC).

(2) Determine the conference date and location with the assistance of the cognizant command and model manager.

```
Precedence:        Action:        PRIORITY
                   Info:          ROUTINE
Message handling instructions:    ADMIN


    FROM       YOUR UNIT//***//

      TO     * ADVISORY GROUP MEMBERS//***//                          (If you are the Cognizant Advisory Group
                   (OR)                                                 Member and are requesting comments)
               ADVISORY GROUP MEMBER IN YOUR CHAIN OF COMMAND//***//    (If you are a subordinate unit submitting
                   (OR)                                                 comments on the recommendation)
               COGNIZANT ADVISORY GROUP MEMBER//***//                   (If from another Advisory Group Member)
                   (OR)
               CNO WASHINGTON DC//N889J//                               (When you are Cognizant Advisory Group
                                                                        Member submitting final recommendation)
               NAVTACSUPPACT WASHINGTON DC//60//                        (When Cognizant Advisory Group Member and
                                                                        requesting CNO issue as interim change)
    INFO       CNO WASHINGTON DC//N889J//
             * OTHER ADVISORY GROUP MEMBERS//***//                      (When responding to a request from the
                                                                        Cognizant Advisory Group Member)
               COMNAVSAFECEN NORFOLK VA//***//
               NAVAEROPMEDINST PENSACOLA FL//00MM//                     (When aircrew emergency egress/rescue/
                                                                        survival equipment/procedures involved)
               NAVAIRSYSCOM DET PMA _____ __//***/                      (For out-of-production aircraft)
               YOUR CHAIN OF COMMAND//***//                             (As appropriate)
               NAVTACSUPPACT WASHINGTON DC//60//                        (When not an action addressee)
               MODEL MANAGER UNIT//***//
               EVALUATOR UNIT IN YOUR CHAIN OF COMMAND//***//           (When other than model manager unit)
               DPRO _____ __//***//                                     (When aircraft is still in production)
               HMX ONE QUANTICO VA//C148-11//                           (When H-3, CH-46E, CH-53 or H-60
                                                                        aircraft involved)

  UNCLAS //N03711//
  MSGID/GENADMIN/ (Driginator's Unit) //
% SUBJ/URGENT CHANGE RECOMMENDATION TO _____(Aircraft/Title)_____ NATOPS PUBLICATION(S)//
  REF/A/DOC/OPNAV/ (Date of latest change or revision) //
  AMPN/REF A IS OPNAVINST 3710.7Q DTD 01MAY95 CHGD _____//
  REF/B/RMG/ (Originator) / (Date-time group) //                        (Originator and date-time-group of
                                                                        initial Urgent Change Recommendation
                                                                        message)
# REF/C/...........//                                                  (Additional references as necessary)
# AMPN/...........//
# NARR/...........//
  POC/...........//

  RMKS/1. IAW REF A, REQUEST COMMENTS/RECOMMENDATIONS/CONCURRENCE ON REF B.    (When the Action/Cognizant
                                                                               Advisory Group Member and
                                                                               requesting comments)
                        (OR)

  1. IAW REF A, CONCUR WITH REF B (AS MOD REF C).                          (When responding to a request for
                                                                           comments)
                        (OR)

  1. IAW REF A, RECOMMEND MOD(S) TO REF B, AS FOLLOWS:                     (When recommending modifications
                                                                           in response to a request for
                                                                           comments)

     A. Identify PART/SECTION/CHAPTER, PAGE, FIGURE/PARAGRAPH/SENTENCE beginning, LINE NUMBER, etc.
        (1) DELETE: (Always indicate material to be deleted.  If no deletion is necessary, indicate by NA).
        (2) ADD: (Indicate new or changed material.  If no new material is necessary, indicate by NA).

     B. (Continue with change recommendations).

  2. (Enter remarks or comments necessary to substantiate the change recommendations.  If no remarks are
     necessary, omit paragraph 2.)

                        (OR)
```

Figure 2-5. Sample GENADMIN Format Response to Initial NATOPS Urgent Change Recommendation Message (Sheet 1 of 2)

```
Precedence:        Action:        PRIORITY
                   Info:          ROUTINE
Message handling instructions:    ADMIN

     FROM      YOUR UNIT//***//

       TO      ADVISORY GROUP MEMBER IN YOUR CHAIN OF COMMAND//***//

     INFO      COMNAVAIRSYSCOM WASHINGTON DC//8.0H/4.1//        (When Safety-Of-Flight matter involved)
               COMNAVSAFECEN NORFOLK VA//***//                  (When Safety-Of-Flight matter involved)
               NAVAEROPMEDINST PENSACOLA FL//00MM//             (When aircrew emergency egress/rescue/
                                                                 survival equipment/procedures involved)
               NAVAIRSYSCOM DET PMA _____ __//***/              (When Safety-Of-Flight matter for
                                                                 out-of-production aircraft involved)
               YOUR CHAIN OF COMMAND//***//                     (As appropriate)
               NAVTACSUPPACT WASHINGTON DC//60//
               MODEL MANAGER UNIT//***//
               EVALUATOR UNIT IN YOUR CHAIN OF COMMAND//***//   (When other than model manager unit)
               HMX ONE QUANTICO VA//C148-11//                   (When H-3, CH-46E, CH-53 or H-60
                                                                 aircraft involved)

  UNCLAS //N03711//
  MSGID/GENADMIN/ (Originator's Unit) //
% SUBJ/URGENT CHANGE RECOMMENDATION TO _____(Aircraft/Title)_____ NATOPS PUBLICATION(S)//
  REF/A/DOC/OPNAV/ (Date of latest change or revision) //
  AMPN/REF A IS OPNAVINST 3710.7Q DTD 01MAY95 CHGD _____//
  REF/B/DOC/NAVAIR/ (Date of latest change or revision) //      (NATOPS pub identification)
  AMPN/REF B IS NAVAIR _____ { Short Title } DTD _____ CHGO ____//  (NATOPS pub identification -
                                                                    Include NAVAIR number, short
                                                                    title (eg., T-34C NFM),
                                                                    revision date, change date,
                                                                    etc.)
# REF/C/.....//                                                 (Additional references as necessary)
# AMPN/.....//
# NARR/.....//
  POC/.....//

  RMKS/1. IAW REF A, RECOMMEND CHANGE(S) TO REF B AS FOLLOWS:

     A. Identify PART/SECTION/CHAPTER, PAGE, FIGURE/PARAGRAPH/SENTENCE beginning, LINE NUMBER, etc.
        (1) DELETE: (Always indicate material to be deleted.  If no deletion is necessary, indicate by NA).
        (2) ADD: (Indicate new or changed material.  If no new material is necessary, indicate by NA).

     B. (Continue with change recommendations).

  2. (Enter remarks or comments necessary to substantiate the change recommendations.)//


*** Show message routing code(s), or "JJJ" when required but not known.  Most NATOPS Advisory Group
    routing codes are shown in the Urgent Change Recommendation/Interim Change section of the NATOPS
    and AIR TACMAN Combined Status Report and/or in subject publication.

  % Add phrase "/SAFETY OF FLIGHT" to subject line when appropriate.

  # Include additional references, with amplification sets or narrative set, as necessary to provide a
    complete background on the change recommendation.
```

Figure 2-4. Sample GENADMIN Format for Initial NATOPS Urgent Change Recommendation Message

NATOPS EVALUATION REPORT REPORTS CONTROL SYMBOL 3710-21

NAME *(Last, first, initial)*		GRADE	SSN
SQUADRON/UNIT	AIRCRAFT MODEL	CREW POSITION	
TOTAL PILOT/FLIGHT HOURS	TOTAL HOURS IN MODEL	DATE OF LAST EVALUATION	

NATOPS EVALUATION

REQUIREMENT	DATE COMPLETED	GRADE		
		Q	CQ	U
OPEN BOOK EXAMINATION				
CLOSED BOOK EXAMINATION				
ORAL EXAMINATION				
* EVALUATION FLIGHT				

FLIGHT DURATION	AIRCRAFT BUNC	OVERALL FINAL GRADE

REMARKS OR EVALUATOR/INSTRUCTOR

EXPIRES: _____

☐ CHECK IF CONTINUED ON REVERSE SIDE

GRADE, NAME OF EVALUATOR	SIGNATURE	DATE
GRADE, NAME OF EVALUEE	SIGNATURE	DATE

REMARKS OF UNIT COMMANDER

GRADE, NAME OF UNIT COMMANDER	SIGNATURE	DATE

OPNAV 3710/7 (Rev. 3-95) S/N 0107-LF-019-4500

Figure 2-2. NATOPS Evaluation Report

report them to the appropriate NATOPS coordinator, the model manager (if appropriate), and the activity responsible for the content of the conflicting directive, including recommendations for resolving the conflict. The program manager shall maintain close liaison with evaluators of similar aircraft models to correlate data, locate any areas of weakness, and recommend appropriate action. The program manager shall make recommendations to the model managers regarding the need for review conferences. The program manager shall provide guidance and assistance to NATOPS instructors. The program manager shall visit and observe, as appropriate, special exercises, tests, and projects involving new operating techniques or procedures applicable to the model aircraft.

f. NATOPS Evaluator — The NATOPS evaluator conducts annual evaluations of all NATOPS instructors (or assistant NATOPS instructors, if possible) within the same major command. The 12-month evaluation cycle may be extended up to 18 months for circumstances such as extended deployments, and only for units whose previous evaluations indicated a high degree of NATOPS program effectiveness. One or more flightcrews from each unit shall be evaluated at random to measure overall compliance with NATOPS. Evaluation results shall be forwarded to each unit commander.

g. NATOPS Instructor — The NATOPS instructors shall conduct an evaluation on all flight crewmembers within their units. Instructors are responsible to the commanding officer for providing the required standardization and shall keep the commanding officer informed of NATOPS development within the community and the unit.

h. Assistant NATOPS Instructor — Assists squadron NATOPS instructor in performing assigned duties. Assigned as deemed necessary by the commanding officer.

2.1.5 Administrative Procedures

a. Preparation of NATOPS flight manuals requires close coordination between the model manager; NAVTACSUPPACT; COMNAVAIRSYSCOM; Commander, Naval Air Warfare Center, Aircraft Division (COMNAVAIRWARCENACDIV); and the aircraft contractor. Initial inputs to the manual for a new aircraft shall be the responsibility of COMNAVAIRWARCENACDIV, the designated model manager, and the contractor. To update a manual, the cognizant command shall convene a conference, normally at the contractor facility, as fleet operational data becomes available and new procedures and techniques are developed.

b. The technical content, style, and format for NATOPS publications shall be in accordance with the applicable military specifications and the Navy Tactical Support Activity Style Guide, NTSA-ED-10-1.

c. Procedural changes to Preliminary NATOPS manuals can be approved and issued by the model manager without using the formal NATOPS change recommendation approval process. The model manager has responsibility to maintain complete records of such changes and to ensure that all users are promptly informed. This change procedure is only for Preliminary NATOPS publications (which do not contain a Letter of Promulgation).

2.1.6 Waivers. Commands indicated below may grant waivers to the provisions of NATOPS manuals to develop new procedures or when compliance is impractical. Waivers shall always indicate the purpose for which granted and the time limitations for the waiver. When a waiver must be continually renewed, it is generally an indication that the particular procedure, requirement, or limitation should be revised. Waiver authority may be delegated in writing at the discretion of the empowered commands as follows:

DELEGATING COMMAND	WAIVER AUTHORITY MAY BE ISSUED TO
CNO	ALL COMMANDS
CMC	FOURTH MAW/ MCCDC
CNAVRES	NAVAIRESFOR
FLEET AND FLEET AIR TYPE COMMANDERS	FLEET COMMANDS
COMMARFORPAC	MARFORPAC MARCORBASESPAC COMCABSWEST
COMMARFORLANT	MARFORLANT COMCABSEAST
CNATRA	ALL CNATRA ACTIVITIES
COMNAVAIRSYSCOM	ALL COMNAVAIR-SYSCOM AND DLA ACTIVITIES

shall be in writing by the commanding officer of the evaluation unit. If the advisory group member is also the cognizant command for the aircraft concerned, the NATOPS evaluator should be in the model manager unit.

j. NATOPS Instructor — A highly qualified air crewmember whose primary duty should be administering the NATOPS evaluation program within a squadron or unit. The NATOPS instructor shall receive initial and subsequent NATOPS evaluations from the appropriate NATOPS evaluator and be designated in writing by the commanding officer.

k. Assistant NATOPS Instructor — A highly qualified air crewmember who can administer NATOPS evaluation checks. The assistant NATOPS instructor shall receive initial and subsequent NATOPS evaluations from either the appropriate NATOPS evaluator or squadron or unit NATOPS instructor and be designated in writing by the commanding officer.

l. NATOPS Officer — An air crewmember whose primary duty is to administer the NATOPS program within a squadron or unit. The NATOPS officer may also be the NATOPS instructor.

m. NATOPS Status Report — A report prepared quarterly by NAVTACSUPPACT delineating the status of all NATOPS manuals, cognizant command and model manager assignments, and other pertinent information.

n. NATOPS Manual — A manual for a specific aircraft model containing standardized ground and flight operating procedures, training requirements, aircraft limitations, and technical data necessary for safe and effective operation of the aircraft. NATOPS manuals are also issued for special aircraft-related operations or systems that lend themselves to standardization (e.g., Aircraft Refueling NATOPS, CV NATOPS, LSO NATOPS).

o. Preliminary NATOPS Manual — A Preliminary NATOPS manual is used during an aircraft's initial production and fleet introduction. During this period, the NATOPS manual is continually changing. The preliminary designation exempts change recommendations from normal advisory group review and allows the model manager to issue interim changes.

2.1.3 NATOPS Program Organization. NATOPS program organization shall be in accordance with this chapter. (See Figure 2-1.)

2.1.4 Responsibilities

a. Chief of Naval Operations — CNO (N889) NATOPS program administrator oversees and monitors the entire NATOPS program, formulates and issues specific CNO policy, acts as model manager for OPNAVINST 3710.7 and related instructions, approves and releases interim changes, and designates cognizant commands.

b. Navy Tactical Support Activity — NAVTACSUPPACT is a field activity of CNO. Officers assigned are the designated CNO NATOPS coordinators. As such, they represent CNO at all NATOPS review conferences, manage all aspects of NATOPS manual production from development to printing, and prepare interim changes for CNO (N889) approval/release. In addition, they coordinate the activities of the NATOPS advisory group members, model managers, and aircraft contractors and distribute the NATOPS status reports.

c. NATOPS Advisory Group — Group members shall monitor the NATOPS program and, except for COMNAVSAFECEN, are responsible to CNO for its proper operation. COMNAVSAFECEN shall be responsible for informing other advisory group members of the effectiveness of the NATOPS program as it applies to aviation safety. The advisory group shall meet, as required, to properly implement and coordinate the program. Each member shall designate a NATOPS coordinator and, other than COMNAVSAFECEN, designate model managers and evaluation units (as required) and issue instructions implementing NATOPS directives that shall include NATOPS evaluation, waiver, and reporting procedures.

(1) NATOPS Coordinator — The coordinator will be responsible for coordinating the overall command NATOPS program as directed by the appropriate advisory group member. The coordinator will maintain liaison with other coordinators and NAVTACSUPPACT and will attend or designate a representative to attend applicable NATOPS review conferences. The coordinator shall ensure that an annual evaluation is conducted on each NATOPS evaluator within the command. The evaluation should, if practicable, be administered by a same model evaluator from another major command, but may be performed by a same model NATOPS instructor within the same major command if necessary. The report of the evaluation shall be forwarded to the evaluator's commanding officer.

coded name (e.g., ALPHA 2). These routes simplify flight plan handling and communications.

1.3.69 STOL. Short takeoff and landing.

1.3.70 Student Naval Aviator (Student Pilot). An individual undergoing training who is not designated as a naval aviator.

1.3.71 Trip. A consecutive series of flights by the same aircraft with the same general purpose of flight (with regard to the aircraft only), pilot in command, and transaction code (i.e., ship operations or shore operations) from point of original departure to destination.

1.3.72 Very Important Persons. VIPs are defined as flag officers, DOD officials equal to or senior to flag officers, high-profile public figures, elected members of Congress, etc.

1.3.73 Visual Meteorological Conditions. Meteorological conditions expressed in terms of visibility, cloud distance, and ceiling that are equal to or better than specified minimums. Basic weather conditions prescribed for flight under visual flight rules (VFR). (Refer to Chapter 5.)

1.3.74 V/STOL. Vertical/short takeoff and landing.

1.3.75 VTOL. Vertical takeoff and landing.

1.4 WARNINGS, CAUTIONS, AND NOTES

The following definitions apply to "WARNINGs," "CAUTIONs," and "Notes" found throughout the manual.

WARNING

An operating procedure, practice, or condition, etc., that may result in injury or death if not carefully observed or followed.

CAUTION

An operating procedure, practice, or condition, etc., that may result in damage to equipment if not carefully observed or followed.

Note

An operating procedure, practice, or condition, etc., that must be emphasized.

1.5 WORDING

The concept of word usage and intended meaning that has been adhered to in preparing this instruction is as follows:

a. "Shall" means procedure is mandatory.

b. "Should" means procedure is recommended.

c. "May" and "need not" mean procedure is optional.

d. "Will" indicates futurity and never indicates any degree of requirement for application of a procedure.

b. Land as soon as possible — Land at the first site at which a safe landing can be made.

c. Land as soon as practicable — Extended flight is not recommended. The landing site and duration of flight is at the discretion of the pilot in command.

1.3.39 Local Flight. A flight that remains within the local flying area and terminates at either the same facility or another military facility with which the originating station has direct station-to-station communications.

1.3.40 Local Flying Area. The airspace above a geographic area not to exceed 350 miles from a facility and designated as the local flying area by the commanding officer. Insofar as practicable, local flying areas shall be bounded by prominent terrain features and/or air navigation aid radials/bearings.

1.3.41 Mile. All distances referred to in this instruction are nautical miles unless otherwise specified.

1.3.42 Mission Commander Time (MCT). Flight time during which an individual, designated as a qualified mission commander in the aircraft model being flown, is serving as the mission commander. Mission commander time is a measure of command experience rather than flight experience.

1.3.43 Multipiloted Aircraft. Any aircraft having two sets of flight controls and instruments and operated by two pilots, both of whom meet the requirements of the NATOPS manual for that model aircraft.

1.3.44 Naval Air Crewman (NAC). A designation for enlisted personnel who have met the requirements for qualification and have been so certified in accordance with paragraph 12.7 of this instruction.

1.3.45 Naval Aviation Shore Facility. A facility at which an active airfield exists and is either owned, operated, or controlled by the Navy or Marine Corps.

1.3.46 Night Time. The portion of pilot time during darkness (i.e., between the official time of sunset and sunrise (on the surface below the aircraft in flight), regardless of whether visual or instrument conditions exist).

1.3.47 Official Business. The necessity to contact personnel, units, or organizations for the purpose of conducting transactions in the service of and in the interest of the United States Government. This definition does not authorize the use of "official business only" airfields, their services, or other items attendant to itinerant operations when making en route stops while proceeding to an airfield at which official business is to be conducted. "Official business only" restrictions do not preclude the use of the facility as an alternate during instrument flight rule (IFR) conditions.

1.3.48 Operational Flying. (See paragraph 11.2 for definition and application.)

1.3.49 Operational Necessity. A mission associated with war or peacetime operations in which the consequences of an action justify accepting the risk of loss of aircraft and crew.

1.3.50 Orientation and Indoctrination Flight. A continuous flight performed within the local flying area and terminating at the point of origin carrying passengers/selected passengers for one of the following purposes:

a. To familiarize them with the aircraft, its operation, capabilities, requirements, limitations, or concept of employment.

b. To familiarize them with a base complex from the air for official purposes other than merely sightseeing or goodwill.

c. For evaluation of navigation facilities and air traffic control procedures that directly affect operations at naval air activities.

1.3.51 Passenger. An individual traveling in an aircraft who is not part of the flightcrew.

1.3.52 Pathfinder. An aircraft whose primary mission is to assist tactical aircraft with communication or navigation of flights over regions where normal tactical aircraft navigation/communication equipment is unusable.

1.3.53 Pilot in Command. The pilot assigned responsibility for safe and orderly conduct of the flight.

1.3.54 Pilot Time. The flight time credited to a designated aviator, student naval aviator, student/designated naval flight surgeon, student/designated aerospace physiologist, or student/designated aerospace experimental psychologist assigned to duty involving flying. Pilot time includes all time credited as first pilot and copilot. Pilot time is intended to be a record of active participation in the control of an aircraft. Pilot time will be credited to the individual actually earning it regardless of rank, billet, age, or level of experience.

1.3.55 First Pilot Time (FPT). The portion of pilot time during which an individual is positioned with

actual operation of the aircraft or directly contribute to the in-flight operation of associated equipment in the aircraft (i.e., civilian pilots flying naval aircraft or maintenance personnel who perform in-flight functions such as installation, maintenance, or troubleshooting of airborne technical equipment, etc.).

1.3.14 Civilian Non-DOD Government Employee. Individual could be with other federal Government agency, state, county, or local government, etc., or an individual not with any government agency but whose activities benefit the general public at large. Firefighters and in-flight medical services are examples.

1.3.15 Civilian. An individual who is not a DOD or other Government employee.

1.3.16 Competent Authority. An official bearing the title of commanding officer or reporting senior higher in the chain of command.

1.3.17 Control (Radar)

a. Advisory — The tactical control of aircraft by a designated control unit in which the pilot receives directions and recommendations. Aircraft commanders are not relieved of responsibility for their own safety and navigation.

b. Close — The tactical control of aircraft by a designated control unit, whereby the pilot receives orders affecting aircraft movements. The pilot will not deviate from controller instructions unless given permission or unless unusual circumstances require immediate action for the safety of the flight. In either case, the pilot will inform the controller of the action taken. This type of control requires two-way radio communication and radar contact. The controller is responsible for the safe separation of the aircraft, and the pilot must be informed whenever the aircraft is not held on the radarscope for periods in excess of 1 minute or five sweeps of the radar and, as a result, is being dead reckoned. The ultimate safety of the aircraft is the responsibility of the pilot.

c. Positive — The tactical control of aircraft by a designated control unit, whereby the pilot receives orders affecting aircraft movements that transfer responsibility for the safe navigation of the aircraft to the unit issuing such orders. The ultimate safety of the aircraft is the responsibility of the pilot.

1.3.18 Controlling Custodian. The command exercising administrative control of assignment, employment, and logistic support of aircraft. Controlling custodians are identified in OPNAVINST 5442.2.

1.3.19 Cross-Country Flight. A flight that either does not remain in the local flying area or remains in the local flying area and terminates at a facility other than an active military facility.

1.3.20 Designations. A designation is a one-time occurrence and remains in effect until removed for cause. Commanders shall issue a designation letter to the individual upon the occasion of his/her original designation with appropriate copies for inclusion in his/her NATOPS qualification jacket.

1.3.21 DIFCREW. Duty for enlisted personnel in a flying status involving operational or training flights.

1.3.22 DIFDEN. Duty in a flying status for an officer not involving flying.

1.3.23 DIFOPS. Duty in a flying status for an officer involving operational or training flights.

1.3.24 DIFTEM (USN). Duty in a temporary flying status involving operational training or evaluation flights as an enlisted noncrewmember awaiting qualification (within 18 months).

1.3.25 Direct Station-to-Station Communications. A means of passing flight progress information between airfields. Communications should be established by one of the following methods:

a. Tower to tower

b. Hotline

c. Service "B" computer system.

1.3.26 Enlisted Crewmember (USMC). Enlisted personnel on competent orders to perform duty involving frequent and regular participation in aerial flight as a crewmember.

1.3.27 Enlisted Noncrewmember on Flight Orders (USMC). Enlisted personnel on competent orders to perform duty involving frequent and regular participation in aerial flight who are not performing duties related to the actual operation of the aircraft or associated equipment in the aircraft (i.e., maintenance personnel who perform in-flight functions such as installation or troubleshooting of airborne technical equipment (maintenance skins) and VIP support, photo specialists, etc.).

ORGANIZATION	CHAPTER
N889J	1, 2, 3, 8, 11, 12, 13, AND APPENDIXES A, C, AND E
N885F	4, 5, 6, AND 9
N889E	7, 10, AND APPENDIXES B, D, F, G, H, I, J, AND K

Figure 1-1. CNO Areas of Responsibility

1.2 OTHER GOVERNING SOURCES OF INFORMATION

Instructions and procedures contained here are not intended to replace or duplicate the following governing sources.

1.2.1 NATOPS Manuals. Those manuals that are issued for specified aircraft by CNO; they contain standard flight doctrine and the optimum operating procedures for the aircraft model concerned. Where a NATOPS manual is not issued for a particular model aircraft, appropriate commands shall issue doctrine and procedures locally. Where a specific NATOPS manual indicates a deviation from this instruction, the specific NATOPS manual constitutes CNO authority to deviate from this instruction. Individual aircraft NATOPS requirements should be at least as stringent as those set forth here. If as a result of a NATOPS conference, it is desired to establish a less stringent requirement, prior approval shall be obtained from CNO. Such approval may be requested by submitting an action copy of the conference record to CNO (N889J) with the item listed as a change requiring further approval in accordance with Chapter 2. When more stringent requirements are issued in this instruction, this instruction shall govern until specific authority to deviate has been granted by CNO.

1.2.2 Local Flying Rules and Instructions. Local flying rules and instructions will be found in regulations issued by the various fleets, forces, naval air stations, and other activities where naval aircraft are based or operated. Navy and Marine Corps air stations and other naval aviation shore facilities that routinely conduct flight operations shall supplement this instruction with air operations manuals. Guidelines for the preparation of air operations manuals are contained in NAVAIR 00-80T-114 (ATC NATOPS).

1.2.3 Federal Aviation Regulations (FAR). Naval aircraft shall be operated in accordance with applicable provisions of FAR, Part 91, except:

a. Where this instruction prescribes more stringent requirements.

b. Where exemptions issued to the Department of the Navy permit deviation therefrom. Exemptions currently on record that permit deviation from FAR, Part 91, are:

(1) Section 91.117 (Aircraft Speed). Operation of naval aircraft at speeds in excess of the restrictions imposed by section 91.117 of the FAR shall be governed by paragraph 5.1.4 of this instruction.

(2) Section 91.169(b) and (c) (Alternate Airport Requirements). Alternate airport requirements and alternate airport weather criteria for clearance of flights to be conducted under instrument flight rules shall be specified in paragraph 4.6.3 of this instruction.

(3) Section 91.179(b)(1) (IFR Cruising Altitude or Flight Level). Exemption from the cruising altitudes/flight levels to be maintained in uncontrolled airspace has been granted to the extent necessary to permit conduct of "olive branch" missions. Policy and procedures for the conduct of "olive branch" missions are contained in Federal Aviation Administration (FAA) Handbook 7610.4, Special Military Operations and FLIP Area Planning AB/1B.

(4) Section 91.209(a) and (b) (Aircraft Lights). The U.S. Marine Corps has been granted an exemption from FAR 91.209(a) and (b) to conduct helicopter night flight military training operations without lighted position lights. Requirements of the exemption are stated in FAA exemption 5978.

1.2.4 DOD Flight Information Publications (FLIPs) (NOTAL) and Notices to Airmen (NOTAMs) (NOTAL). The procedures, special notices, and instructions contained in the FLIPs and

NMOC. Naval Meteorology and Oceanography Command.

NOE. Nap of the Earth.

NOTAM(s). Notice(s) to airmen.

NPQ. Not physically qualified.

NROTC. Naval reserve officer training corps.

NVD. Night vision device.

NWP. Naval warfare publication.

O

OAT. Outside air temperature.

OFT. Operational flight trainer.

OIC. Officer in charge.

OOCF. Out-of-control flight.

ORE. Operational readiness evaluation.

P

PCS. Permanent change of station.

PEP. Personnel exchange program.

PIC. Pilot in command.

PQM. Pilot qualified in model.

Q

QAC. Quick attachable chest.

R

RAC. Replacement aircrew.

RDT&E. Research, development, test, and evalution.

ROTC. Reserve Officer Training Corps.

RSSMM. Rescue swimmer school model manager.

RSSTP. Rescue swimmer school training program.

RTO. Range training officer.

RUC. Reporting unit code.

RVR. Runway visual range.

S

SAD. Senior air director.

SAR. Search and rescue.

SARMM. Search and rescue model manager.

SCATANA. Security control of air traffic and air navigation aids.

SCT. Special crew time.

SFA. Single frequency approach.

SID. Standard instrument departure.

SIF. Sclective identification feature.

SOP. Standard operating procedure.

SPC. Specific purpose code.

STANAG. Standardization agreement.

STOL. Short takeoff and landing.

T

T&R. Training and readiness.

TAD. Temporary additional duty.

TBA. To be assigned.

TCA. Terminal control area.

TDIP. Technical data indoctrination package.

TMR. Total mission requirements.

T/M/S. Type/model/series.

TO. Table of organization.

TR. Training rules.

TYCOM. Type commander.

U

UCR. Urgent change recommendation.

UHF. Ultrahigh frequency.

COMNAVAIRSYSCOM. Commander, Naval Air Systems Command.

COMNAVAIRWARCENACDIV. Commander, Naval Air Warfare Center, Aircraft Division.

COMNAVSAFECEN. Commander, Naval Safety Center.

COMSEVENTHFLT. Commander Seventh Fleet.

COMSIXTHFLT. Commander Sixth Fleet.

CORTRAMID. Coordinated training of midshipmen.

CPT. Copilot time.

CTF. Commander Task Force.

D

DCF. Document control form.

DEWIZ. Defense early warning identification zone.

DH. Decision height.

DOD. Department of Defense.

DPRO. Defense Plant Representative Office.

DSF. Data service facility.

DSN. Defense switched network.

DUAT. Direct user access terminal.

E

ETA. Estimated time of arrival.

ETD. Estimated time of departure.

ETE. Estimated time en route.

F

F/W. Fixed wing.

FAA. Federal Aviation Administration.

FACSFAC. Fleet area control and surveillance facility.

FAILSAFE. Fleet air introduction/liaison of survival aircrew flight equipment.

FAR. Federal Aviation Regulation.

FCF. Functional checkflight.

FCLP. Field carrier landing practice.

FFPB. Field Flight Performance Board.

FLIP. Flight information publication.

FMF. Fleet Marine Force.

FMS. Foreign military sales.

FNAEB. Field Naval Aviator Evaluation Board.

FOD. Foreign object damage.

FPC. Flight purpose code.

FPT. First pilot time.

FRS. Fleet readiness squadron.

FS. Flight surgeon.

FSS. Flight service station.

FSSB. Flight Status Selection Board.

FXP. Fleet exercise publication.

FYTD. Fiscal year to date.

G

GLOC. G-loss of consciousness.

GMT. Greenwich mean time.

GPC. General purpose code.

GPS. Global positioning system.

H

HAP. High-altitude parachute.

HAT. Height above touchdown.

HDIP. Hazardous duty incentive pay.

HEED. Helicopter emergency egress device.

HOI. Handbook of overhaul instructions.

NAVMC forms may be requisitioned from the Marine Corps supply system, Marine Corps Logistic Base, Code 835-4, Albany, GA 31704.

Officers Qualification Record NAVMC 123A (Rev 7-86), S/N 0000-00-000-3503

U.S. Embassy Service Book Cover NAVMC 118A (Rev 9-93), S/N 0000-00-000-1607

REPORTS

The following reports are approved for 3 years only from the date of this instruction:

REPORT SYMBOL	TITLE	LOCATION
OPNAV 3710-19	Flight Time Deficiency Report	Page 11-11 para 11.5.2
OPNAV 3710-21	NATOPS Evaluation Report	Page 2-6

Page No.

APPENDIX K — CNO (N889) APPROVED IFAR SIMULATORS

Page No.

CHAPTER 3 — POLICY GUIDANCE

RECORD OF CHANGES

Change No. and Date of Change	Date of Entry	Page Count Verified by (Signature)

Distribution (continued)

SNDL	FR10	(Reserve Center) (Omaha, only) (12)
	FR14	(Air Reserve Center) (16)
	FR16	(Air Reserve ASW Training Center) (8)
	FS1	(Intelligence) (5)
	FT1	(Chief of Naval Education and Training) (12)
	FT2	(Air Training) (30)
	FT5	(Coordinator Mid South NET) (12)
	FT6	(Air Station CNET) (25) (Less NAS Corpus Christi, NAS Kingsville, TX and NAS Whiting Field
	FT6	(Air Station CNET) (NAS Corpus Christi) (250); (NAS Kingsville) (41); (NAS Whiting Field) (400)
	FT9	(Aviation Museum)
	FT10	(Aviation Schools Command) (26)
	FT12	(Air Maintenance Training Group) (3)
	FT13	(Air Technical Training Center) (4)
	FT16	(Marine Aviation Training Support Group, CNET) (65)
	FT19	(Administrative Unit)
	FT22	(Fleet Combat Training Center)
	FT24	(Fleet Training Center) (FTC, San Diego (3))
	FT28	(Education and Training Center)
	FT35	(Amphibious School)
	FT39	(Technical Training Center) (Meridian) (60)
	FT43	(Surface Warfare Officers School Command)
	FT45	(SCOL Explosive Ordnance Disposal)
	FT46	(Fleet Anti-Submarine Warfare Training Center)
	FT51	(Fleet and Mine Warfare Training Center)
	FT65	(Fleet Intelligence Training Center)
	FT74	(Naval Reserve Officers Training Corps Unit)
	FT78	(Education and Training Program Management Support Activity)
	FT79	(Flight Demonstration Squadron) (Blue Angels) (5)
	FT89	(Air Training Unit) (6)
	FT90	(Training Air Wing) (6) (Less Training Air Wing 5)
	FT90	(Training Air Wing) (Training Air Wing 5) (425)
	FT91	(Training Squadron) (12) (Less TRARON 7, TRARON 9, and TRARON 10)
	FT 91	(Training Squadron) (TRARON 7) (70); (TRARON 9) (33); (TRARON 10) (100)
	FT108	(Hospital Medical Center PAC)
	FT110	(Medical Clinic)
	FW1	(National Naval Medical Center)
	FW3	(Hospital NDW)
	FW4	(Medical Clinic NDW)
	V3	(Marine Corps Air Base Commanders) (12)
	V4	(Marine Corps Air Facility) (Less MCAF Quantico) (6)
	V4	(Marine Corps Air Facility) (MCAF Quantico) (30)
	V5	(Marine Corps Air Station) (Less MCAS Beaufort) (25)
	V5	(Marine Corps Air Station) (MCAS Beaufort) (35)
	V6	(Fourth Marine Aircraft Wing) (10)
	V11	(Marine Corps Institute) (2)
	V12	(Combat Development Command Marine Corps)
	V15	(Marine Corps District) (Garden City, Philadelphia only)
	V16	(Marine Corps Base)
	V22	(Marine Corps Aircraft Group) (10)
	Annex A to SNDL	
	T-100V	(AE) (Ammunition Ship)
	T-100W	(AFS) (Combat Store Ship) (SPICA only)
	OPNAV	(N865, N889E, N881D, N413T, N880E4, N885F, N880F, N889J3, (100), N51, N63)

Distribution (continued):

SNDL	46C1	(Aircraft Group) (Less MAG-24, MAG-12, MAG-14, MAG-11, MAG-36, and MAG-29) (12)
	46C1	(Aircraft Group) (MAG-12 and MAG-14) (45); (MAG-24) (35); (MAG-29) (22, 12 for NAOS); (MAG-36) (20)
	46J	(Air Control Squadron) (MACS-2 only) (4)
	46M1	(Headquarters and Headquarters Squadron) (10)
	46M2	(Marine Aviation Logistics Squadron) (MALS-16, only)
	46P2	(Helicopter Squadron) (5) (Less HMLA-267 and HMM-265)
	46P2	(Helicopter Squadron) (HMLA-267) (50); (HMM-265) (10)
	46P4	(Helicopter Training Squadron) (Less HMT-204, HMT-302 and HMT-303) (10)
	46P4	(Helicopter Training Squadron) (HMT-204) (30); (HMT-302) (35); (HMT-303) (60)
	46R	(Marine Wing Support Squadron)
	46S	(Air Traffic Control Squadron) (6)
	46T	(Training Squadrons) (35)
	49	(Administrative Support Unit) (2)
	50	(Unified and Specified Commands) (2)
	C1	(Naval Personnel at Army Activities) (2)
	C2	(Naval Personnal at Air Force Activities) (2)
	C25A	(OPNAV Support Activity Detachment) (Ft. Ritchie only)
	C3	(Naval Personnel at DOD or other Government Agencies)
	C5	(Military Assistance Advisory Groups) (Less C5G Netherlands)
	C5G	(Office of Defense Cooperation Netherlands only (2))
	C6B	(Military Groups) (Quito, Ecuador only)
	C7	(U.S. Defense Attache Offices) (London, only) (10)
	C40	(Shore-Based Detachments Meteorology & Oceanography)
	C43A	(Security Group Detachments)
	C49B	(Scientific and Technical Group)
	C58J	(Air Maintenance Training Group Detachment) (30) (NAMTRADET Cecil Field (66))
	C80D	(Aviation Depot Operations Center Detachment) (NERRA Naples, Italy) (2)
	C84C	(Sea Support Center Detachments)
	C84D	(Naval Undersea Warfare Center Detachments) (2)
	E2C	(Finance Center)
	E3A	(Laboratory ONR)
	E7A	(Activities Under the Command of the Auditor General of the Navy)
	FA6	(Air Station LANT) (15) (Less NAS Cecil Field, NAS Jacksonville, NAS Keflavik, and NAS Norfolk)
	FA6	(Air Station LANT) (NAS Cecil Field, NAS Jacksonville and NAS Keflavik) (30); (NAS Norfolk) (50)
	FA7	(Station LANT) (12)
	FA23	(Naval Facility LANT)
	FA30	(Weapons Training Facility LANT)
	FA47	(NAVHOSP) (Portsmouth, VA only)
	FA49	(Medical Clinic LANT)
	FB6	(Air Facility PAC) (15)
	FB7	(Air Station PAC) (24)
	FB34	(Fleet Activities)
	FB36	(Facility PAC)
	FB48	(Support Facility PAC)
	FB58	(Hospital/Medical Center PAC) (Okinawa Only)
	FB60	(Medical Clinic PAC)
	FC4	(Air Facility EUR) (United Kingdom (40))
	FC7	(Station EUR) (12)
	FC11	(Security Force Company Marine Corps, EUR)
	FC14	(Air Station EUR) (22)

Distribution:

SNDL	A	(Navy Department) (less A2A (CNR, only), A3, A5 and A6)
	A2A	(Department of the Navy Staff Officers (CNR, only)) (3)
	A6	(Headquarters U.S. Marine Corps) (27)
	B	(Special Agencies of DOD Requiring Direct Distribution of Navy Publications and Directives (Less B2D Atlanta, B5 and B6)
	B2D	(Defense Contract Administration Management Regions) (Atlanta, only) (6)
	B5	(U.S. Coast Guard) (10)
	B6	(Other Government Agencies) (FAA, only) (2)
	21A	(Fleet Commanders in Chief)
	22A	(Fleet Commanders) (2)
	23	(Force Commanders) (2)
	23B3	(Special Force Commander EUR) (COMARSURURECFORSIXTHFLT, only (3)
	23C	(Naval Reserve Force Commander) (8)
	24	(Type Commanders) (less 24A, 24D and 24J)
	24A	(Naval Air Force Commanders) (20)
	24D	(Surface Force Commanders) (2)
	24J	(Fleet Marine Force Commands) (7)
	26A	(Amphibious Group)
	26C	(Beach Group)
	26F	(Operational Test and Evaluation Force)
	26H	(Fleet Training Group and Detachment)
	26Q	(Nuclear Weapons Training Group and Detachment)
	26CC	(Fleet Coordinating Group)
	26FF	(Mine Warfare Inspection Group)
	26GG	(Explosive Ordnance Disposal Mobile Group and Unit)
	26JJ	(Fleet Area Control and Surveillance Facility)
	26RR	(Fleet Imaging Command, Center Facility and Detachment)
	26SS	(Mobile Mine Assembly Group and Unit)
	26HHH	(Command and Control Warfare Group and Detachment)
	26KKK	(Tactical Training Group)
	27G	(Support Force Antarctica) (7)
	28A	(Carrier Group) (2)
	28B	(Cruiser-Destroyer Group) (2)
	28C	(Surface Group and Force Representative)
	28D	(Destroyer Squadron)
	28J	(Combat Logistics Groups, Squadrons and Support Squadrons)
	28L	(Amphibious Squadron) (2)
	29A	(Guided Missile Cruiser) (CG) (CGN) (2)
	29B	(Aircraft Carrier (CV), (CVN) (14)
	29E	(Destroyer (DD) 963 Class)
	29F	(Guided Missile Destroyer (DDG)) (2)
	29AA	(Guided Missile Frigate) (FFG 7)
	31A	(Amphibious Command Ship) (LCC)
	31G	(Amphibious Transport Dock) (LPD)
	31H	(Amphibious Assault Ship) (LHA) (LPH) (2)
	31I	(Dock Landing Ship) (LSD) (2)
	32A	(Destroyer Tender) (AD)
	32C	(Ammunition Ship) (AE)
	32G	(Combat Store Ship) (AFS)
	32H	(Fast Combat Support Ship) (AOE)
	32KK	(Miscellaneous Command Ship) (AGF) (2)
	41B	(Area Commander, MSC) (COMASCPAC only) (2)